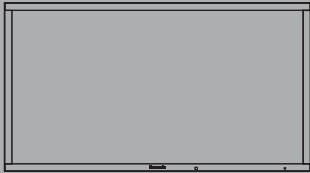


# Panasonic<sup>®</sup>

Model No.  
**TH-152UX1**

## Operating Instructions High Definition Plasma Display



# HDMI

**English**

Please read these instructions before operating your set  
and retain them for future reference.

# ***Dear Panasonic Customer***

*Welcome to the Panasonic family of customers. We hope that you will have many years of enjoyment from your new Plasma Display.*

*To obtain maximum benefit from your set, please read these Instructions before making any adjustments, and retain them for future reference.*

*Retain your purchase receipt also, and note down the model number and serial number of your set in the space provided on the rear cover of these instructions.*

*Visit our Panasonic Web Site      <http://panasonic.net>*



The lightning flash with arrow-head within a triangle is intended to tell the user that parts inside the product are a risk of electric shock to persons.



The exclamation point within a triangle is intended to tell the user that important operating and servicing instructions are in the papers with the appliance.

**WARNING :** To prevent damage which may result in fire or shock hazard, do not expose this apparatus to rain or moisture.  
Do not place containers with water (flower vase, cups, cosmetics, etc.) above the set.  
(including on shelves above, etc.)

**WARNING :** To prevent electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

## Important Safety Instructions

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments / accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart / apparatus combination to avoid injury from tip-over.
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- 15) The installation shall be carried out in accordance with all applicable installation rules.



# FCC STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

## **FCC CAUTION:**

**To assure continued compliance, follow the attached installation instructions and use only shielded interface cables when connecting to computer or peripheral devices. Any changes or modifications not expressly approved by Panasonic Corp. of North America could void the user's authority to operate this device.**

### FCC Declaration of Conformity

Model No. TH-152UX1

Responsible Party:	Panasonic Corporation of North America Three Panasonic Way 2F-5, Secaucus, NJ 07094
Contact Source:	Panasonic Solutions Company Panasonic Plasma Concierge 1-800-973-4390

## **CANADIAN NOTICE:**

This Class B digital apparatus complies with Canadian ICES-003.

# Important Safety Notice

## WARNING

- 1) To prevent damage which may result in fire or shock hazard, do not expose this appliance to dripping or splashing.  
**Do not place containers with water (flower vase, cups, cosmetics, etc.) above the set. (including on shelves above, etc.)**  
**No naked flame sources, such as lighted candles, should be placed on / above the set.**
- 2) To prevent electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

## CAUTION

This appliance is intended for use in environments which are relatively free of electromagnetic fields. Using this appliance near sources of strong electromagnetic fields or where electrical noise may overlap with the input signals could cause the picture to wobble or cause interference such as noise to appear. To avoid the possibility of harm to this appliance, keep it away from sources of strong electromagnetic fields.

## Trademark Credits

- VGA is a trademark of International Business Machines Corporation.
- Macintosh is a registered trademark of Apple Inc., USA.
- SVGA, XGA, SXGA and UXGA are registered trademarks of the Video Electronics Standard Association.  
Even if no special notation has been made of company or product trademarks, these trademarks have been fully respected.
- HDMI, the HDMI Logo, and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

## Note:

Do not allow a still picture to be displayed for an extended period, as this can cause a permanent image retention to remain on the Plasma Display.

Examples of still pictures include logos, video games, computer images, teletext and images displayed in 4:3 mode.

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# Safety Precautions

## WARNING

### ■ Setup

**This Plasma Display is for use only with the following optional accessories. Use with any other type of optional accessories may cause instability which could result in the possibility of injury.**

(All of the following accessories are manufactured by Panasonic Corporation.)

- Pedestal ..... TY-ST152UX1
- Mounting Bracket ..... TY-WK152UX1
- HD-SDI Terminal Board with audio ..... TY-FB10HD
- Dual Link HD-SDI Terminal Board..... TY-FB11DHD
- DVI-D Terminal Board ..... TY-FB11DD

Always be sure to ask a qualified technician to carry out set-up.

Small parts can present choking hazard if accidentally swallowed. Keep small parts away from young children. Discard unneeded small parts and other objects, including packaging materials and plastic bags/sheets to prevent them from being played with by young children, creating the potential risk of suffocation.

**Do not place the Plasma Display on sloped or unstable surfaces.**

- The Plasma Display may fall off or tip over.

**Do not place any objects on top of the Plasma Display.**

- If water is spills onto the Plasma Display or foreign objects get inside it, a short-circuit may occur which could result in fire or electric shock. If any foreign objects get inside the Plasma Display, please consult your local Panasonic dealer.

**Transport only in upright position!**

- Transporting the unit with its display panel facing upright or downward may cause damage to the internal circuitry.

**Ventilation should not be impeded by covering the ventilation openings with items such as newspapers, table cloths and curtains.**

**For sufficient ventilation;**

**If using the pedestal (optional accessory), leave a space of 20.0"/50 cm or more at the top, left, right and rear, and also keep the space between the bottom of the display and the floor surface. If using some other setting-up method, follow the manual of it. (If there is no specific indication of installation dimension in the installation manual, leave a space of 20.0"/50 cm or more at the top, left and right; 12.0"/30 cm or more at the bottom; and 8.0"/20 cm or more at the rear.)**

# Safety Precautions

---

## ■ When using the Plasma Display

The Plasma Display is designed to operate on 200 - 240 V AC, 50/60 Hz.

**Do not cover the ventilation holes.**

- Doing so may cause the Plasma Display to overheat, which can cause fire or damage to the Plasma Display.

**Do not stick any foreign objects into the Plasma Display.**

- Do not insert any metal or flammable objects into the ventilations holes or drop them onto the Plasma Display, as doing so can cause fire or electric shock.

**Do not remove the cover or modify it in any way.**

- High voltages which can cause severe electric shocks are present inside the Plasma Display. For any inspection, adjustment and repair work, please contact your local Panasonic dealer.

**Always use the breaker dedicated to the Plasma Display.**

- Using other breakers may generate heat and cause fire.

**Do not turn on/off the breaker with wet hands.**

- Doing so may cause electric shocks.

**When using a fused load switch, make sure a fuse of appropriate capacity is used.**

- Doing so may cause electric shocks.

**Do not do anything that may damage the power cable.**

- Do not damage the cable, make any modifications to it, place heavy objects on top of it, heat it, place it near any hot objects, twist it, bend it excessively or pull it. To do so may cause fire and electric shock. If the power cable is damaged, have it repaired at your local Panasonic dealer.

**If the Plasma Display is not going to be used for any prolonged length of time, turn off the breaker.**

**To prevent the spread of fire, keep candles or other open flames away from this product at all times.**



## ■ If problems occur during use

**If a problem occurs (such as no picture), or if smoke or an abnormal odour starts to come out from the Plasma Display, immediately turn off the breaker.**

- If you continue to use the Plasma Display in this condition, fire or electric shock could result. After checking that the smoke has stopped, contact your local Panasonic dealer so that the necessary repairs can be made. Repairing the Plasma Display yourself is extremely dangerous, and shall never be done.

**If water or foreign objects get inside the Plasma Display, if the Plasma Display is dropped, or if the cabinet becomes damaged, turn off the breaker.**

- A short circuit may occur, which could cause fire. Contact your local Panasonic dealer for any repairs that need to be made.



### CAUTION

#### ■ When using the Plasma Display

**Do not bring your hands, face or objects close to the ventilation holes of the Plasma Display.**

- Heated air comes out from the ventilation holes at the top of Plasma Display will be hot. Do not bring your hands or face, or objects which cannot withstand heat, close to this port, otherwise burns or deformation could result.

**Be sure to disconnect all cables before moving the Plasma Display.**

- If the Plasma Display is moved while some of the cables are still connected, the cables may become damaged, and fire or electric shock could result.

**Before cleaning, turn off the breaker for your safety.**

- Electric shocks can result if this is not done.

**Do not burn or breakup batteries.**

- Batteries must not be exposed to excessive heat such as sunshine, fire or the like.

**This Plasma Display radiates infrared rays, therefore it may affect other infrared communication equipment. Install your infrared sensor in a place away from direct or reflected light from your Plasma Display.**

## Cleaning and maintenance

**The front of the display panel has been specially treated. Wipe the panel surface gently using only a cleaning cloth or a soft, lint-free cloth.**

- If the surface is particularly dirty, wipe with a soft, lint-free cloth which has been soaked in pure water or water in which neutral detergent has been diluted 100 times, and then wipe it evenly with a dry cloth of the same type until the surface is dry.
- Do not scratch or hit the surface of the panel with fingernails or other hard objects, otherwise the surface may become damaged. Furthermore, avoid contact with volatile substances such as insect sprays, solvents and thinner, otherwise the quality of the surface may be adversely affected.

**If the cabinet becomes dirty, wipe it with a soft, dry cloth.**

- If the cabinet is particularly dirty, soak the cloth in water to which a small amount of neutral detergent has been added and then wring the cloth dry. Use this cloth to wipe the cabinet, and then wipe it dry with a dry cloth.
- Do not allow any detergent to come into direct contact with the surface of the Plasma Display. If water droplets get inside the unit, operating problems may result.
- Avoid contact with volatile substances such as insect sprays, solvents and thinner, otherwise the quality of the cabinet surface may be adversely affected or the coating may peel off. Furthermore, do not leave it for long periods in contact with articles made from rubber or PVC.

### 3D Safety Precautions

---

#### WARNING

##### ■ Small Parts

3D Eyewear contains small parts (battery and specialised band, etc.) and must be kept out of reach of small children to avoid accidental ingestion.

##### ■ Disassembly

Do not disassemble or modify the 3D Eyewear.

##### ■ Lithium Battery

Batteries must not be exposed to excessive heat such as sunshine, fire or the like.



#### CAUTION

To enjoy 3D images safely and comfortably, please read these instructions fully.

##### ■ Use for commercial applications and public viewing

Someone in authority should responsibly convey the precautions for use of the 3D Eyewear to the user.

##### ■ 3D Eyewear

Do not drop, exert pressure on, or step on the 3D Eyewear.

Always store the 3D Eyewear in the case provided when not in use.

Be careful of the tips of the frame when putting on the 3D Eyewear.

Be careful not to trap a finger in the hinge section of the 3D Eyewear.

Pay special attention when children are using the 3D Eyewear.

3D Eyewear should not be used by children younger than 5 - 6 years old, as a guideline.

All children must be fully supervised by parents or guardians who must ensure their safety and health throughout the using 3D Eyewear.

### ■ Viewing 3D Content

Content for 3D viewing includes commercially available Blu-ray discs, 3D broadcasts, etc. When preparing your own 3D content, ensure that it is properly produced.

Do not use the 3D Eyewear if you have a history of over-sensitivity to light, heart problems, or have any other existing medical conditions.

Please stop using the 3D Eyewear immediately, if you feel tired, are not feeling well or experience any other uncomfortable sensation.

Take an appropriate break after viewing a 3D movie.

Take a break of between 30 - 60 minutes after viewing 3D content on interactive devices such as 3D games or computers.

Be careful not to strike the screen or other people unintentionally. When using the 3D Eyewear the distance between the user and screen can be misjudged.

The 3D Eyewear must only be worn when viewing 3D content.

If you do not look toward the screen for a while when viewing 3D images, the 3D Eyewear may be turned off automatically.

If you suffer from any eyesight problems (short / far-sighted, astigmatism, eyesight differences in left and right), please ensure to correct your vision before using the 3D Eyewear.

Stop using the 3D Eyewear if you can clearly see double images when viewing 3D content.

Do not use the 3D Eyewear at a distance less than the recommended distance.

View from at least the recommended distance (3 times the effective height of the screen).

Recommended distance: 212.6"/5.4 m

When the top and bottom area of the screen is blackened, such as movies, view the screen at a distance 3 times further than the height of the actual image. (That makes the distance closer than above recommended figure.)

### ■ 3D Eyewear Use

Before using the 3D Eyewear, ensure no breakable objects surrounding the user to avoid any accidental damage or injury.

Remove the 3D Eyewear before moving around to avoid falling or accidental injury.

Always put the 3D Eyewear in the case (supplied) after use.

Use the 3D Eyewear only for the intended purpose and nothing else.

Do not use 3D Eyewear in the condition of high temperature.

Do not use if the 3D Eyewear is physically damaged.

Do not use any devices that emit the infrared signals near the 3D Eyewear, as this may cause the 3D Eyewear false operations.

Do not use devices (such as mobile phones or personal transceivers) that emit strong electromagnetic waves near the 3D Eyewear as this may cause the 3D Eyewear to malfunction.

Stop using the 3D Eyewear immediately if a malfunction or fault occurs.

Stop using the 3D Eyewear immediately if you experience any redness, pain, or skin irritation around the nose or temples.

In rare cases, the materials used in the 3D Eyewear may cause an allergic reaction.

### ■ Lithium Battery

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.

# Accessories

## Accessories Supply

Check that you have the accessories and items shown



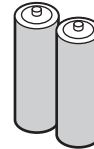
Operating Instruction book



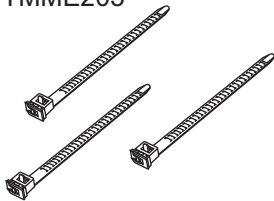
Remote Control Transmitter  
N2QAYB000560



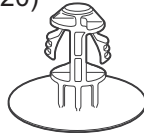
Batteries for the Remote  
Control Transmitter  
(R6 (AA) Size × 2)



Fixing band × 3  
TMME203



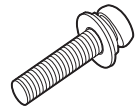
Nut cover × 3  
(M20)



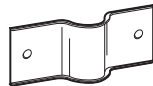
Nut cover × 3  
(M16)



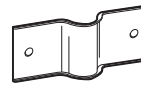
Bolt × 3



Power cable fixing  
plate A × 2



Power cable fixing  
plate B × 2



Allen wrench

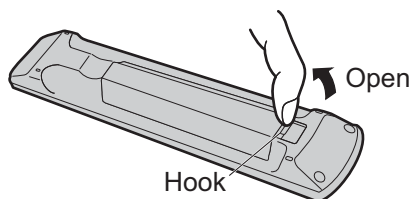


These accessories will be used by professional installers when they install the unit.

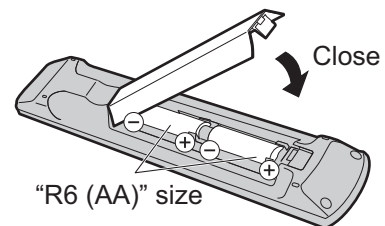
## Remote Control Batteries

Requires two R6 (AA) batteries.

1. Pull and hold the hook, then open the battery cover.



2. Insert batteries - note correct polarity ( + and -).



### Helpful Hint:

For frequent remote control users, replace old batteries with Alkaline batteries for longer life.

### ⚠ Precaution on battery use

Incorrect installation can cause battery leakage and corrosion that will damage the remote control transmitter. Disposal of batteries should be in an environment-friendly manner.

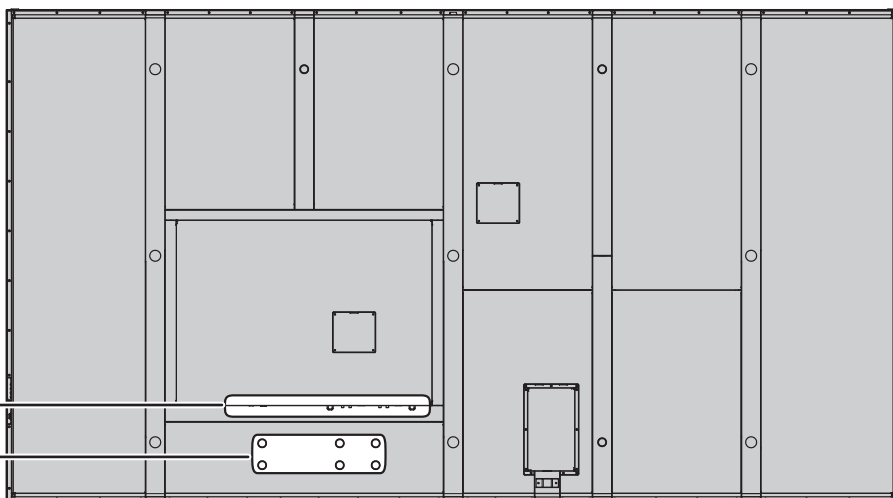
**Observe the following precaution:**

1. Batteries shall always be replaced as a pair. Always use new batteries when replacing the old set.
2. Do not combine a used battery with a new one.
3. Do not mix battery types (example: "Zinc Carbon" with "Alkaline").
4. Do not attempt to charge, short-circuit, disassemble, heat or burn used batteries.
5. Battery replacement is necessary when remote control acts sporadically or stops operating the Plasma Display set.
6. Do not burn or breakup batteries.

Batteries must not be exposed to excessive heat such as sunshine, fire or the like.

# Connections

## Video equipment connection



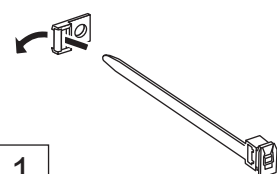
### Cable fixing

Secure any excess cables with band as required.

#### Note:

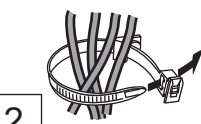
Three fixing bands are supplied with this unit. In case of securing cables at six positions, please purchase it separately.

Pass the attached cable fixing band through the clip as shown in the figure.

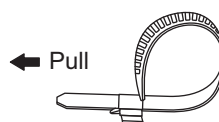


To secure cables connected to Terminals, wrap the cable fixing band around them then pass the pointed end through the locking block, as shown in the figure.

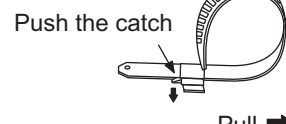
**While ensuring there is sufficient slack in cables to minimize stress, firmly bind all cables with the supplied fixing band.**



To tighten:



To loosen:

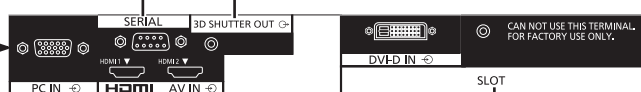


**SERIAL**  
Control the Plasma Display by connecting to PC. (see page 12)

**3D SHUTTER OUT**  
Connect the 3D IR TRANSMITTER (optional accessory).

**SDI IN 1-4 (4 systems)**  
4k2k signal Dual Link  
HD-SDI input terminal  
(see page 8)

**DVI-D IN 1-4 (4 systems)**  
4k2k signal Single Link  
DVI-D input terminal  
(see page 9)

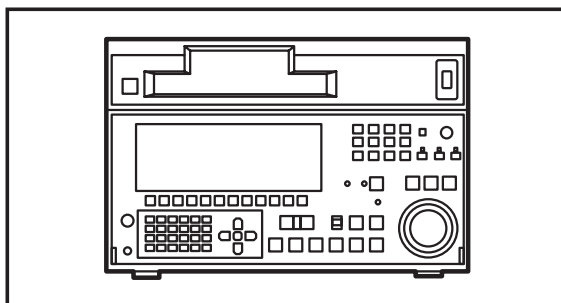
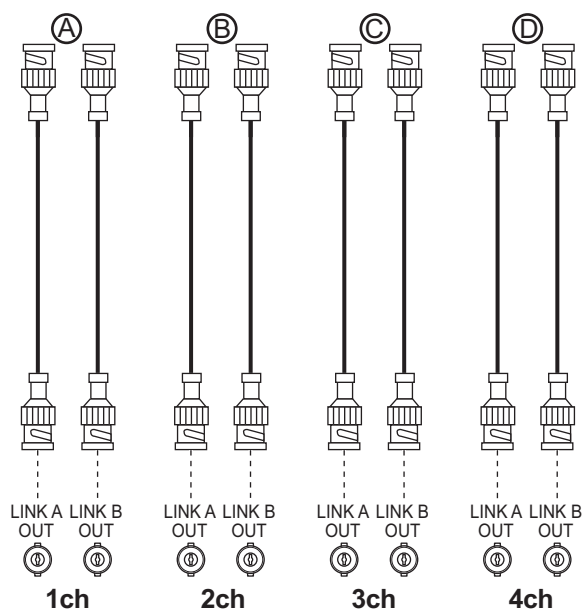
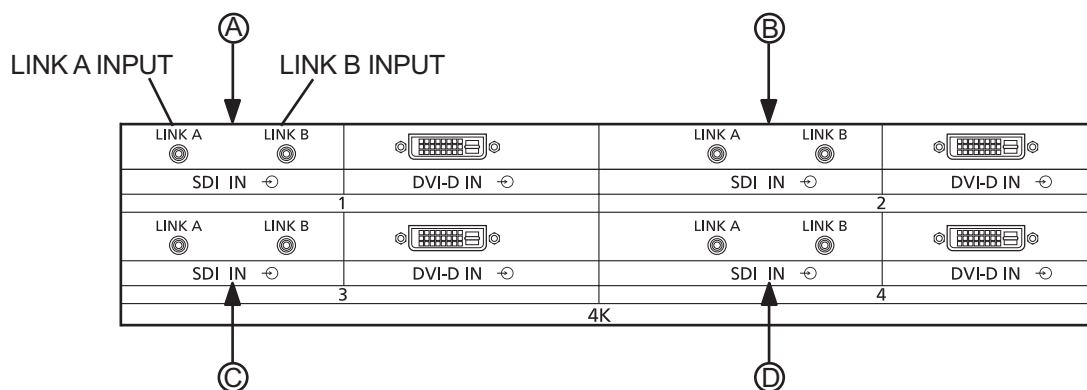


**PC IN**  
PC Input Terminal  
(see page 11)

**AV IN (HDMI 1/2)**  
HDMI Input Terminal  
(see page 10)

**SLOT (DVI-D IN)**  
DVI-D Input Terminal (equivalent of DVI-D Terminal Board (TY-FB11DD)) (see page 10)  
It accepts the Terminal board (optional accessories). (see page 1)

## Dual Link HD-SDI (4k2k) connection



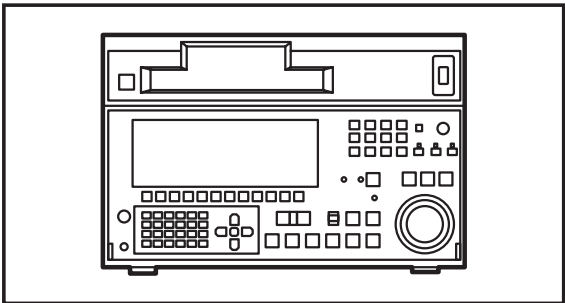
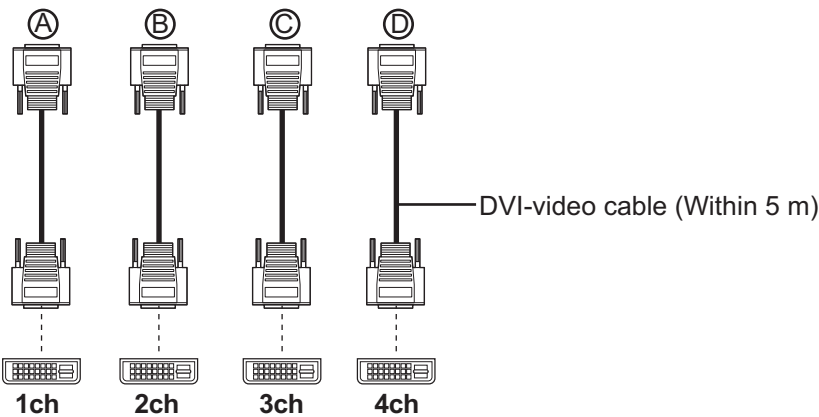
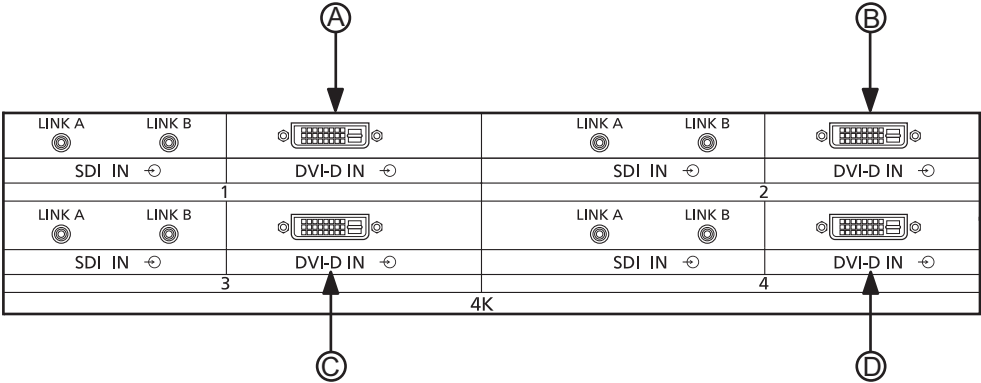
Hardware with Dual Link HD-SDI output capability

- Recommended cable  
75  $\Omega$  coaxial cable 5C-FB
- Maximum extended length: 100 m  
\* When using a cable with a length of less than 100 m and an attenuation of 20 dB at 750 MHz

### Note:

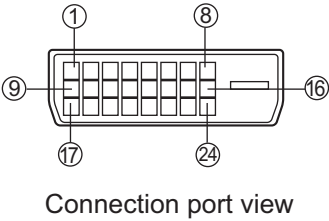
Additional equipment and cables shown are not supplied with this set.

# Single Link DVI-D (4k2k) connection



Hardware with Single Link DVI-D output capability

## DVI-D Input Connector Pin Layouts



Pin No.	Signal Name	Pin No.	Signal Name
①	T.M.D.S. data 2-	⑬	_____
②	T.M.D.S. data 2+	⑭	+5 V DC
③	T.M.D.S. data 2 shield	⑮	Ground
④	_____	⑯	Hot plug detect
⑤	_____	⑰	T.M.D.S. data 0-
⑥	DDC clock	⑱	T.M.D.S. data 0+
⑦	DDC data	⑲	T.M.D.S. data 0 shield
⑧	_____	⑳	_____
⑨	T.M.D.S. data 1-	㉑	_____
⑩	T.M.D.S. data 1+	㉒	T.M.D.S. clock shield
⑪	T.M.D.S. data 1 shield	㉓	T.M.D.S. clock+
⑫	_____	㉔	T.M.D.S. clock-

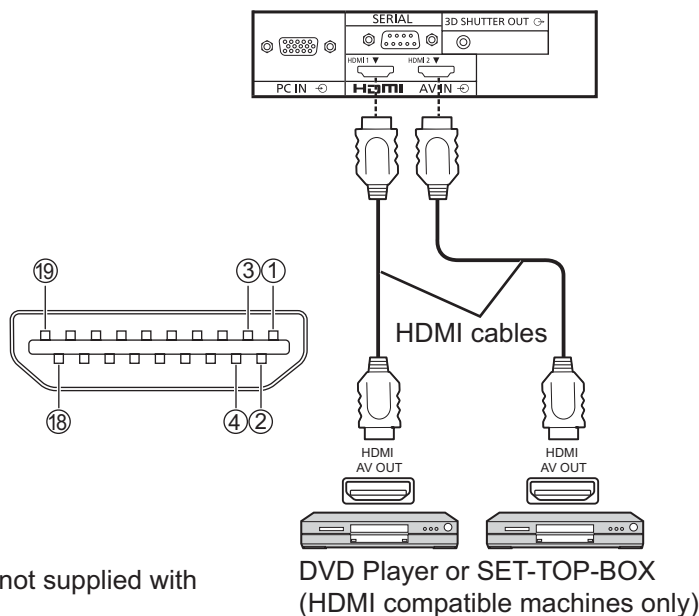
### Notes:

- Additional equipment and cables shown are not supplied with this set.
- Use the DVI-D cable complying with the DVI standard. Image deterioration may occur depending on the length or the quality of the cable.

## HDMI connection

[Pin assignments and signal names]

Pin No.	Signal name	Pin No.	Signal name
①	T.M.D.S Data2+	⑪	T.M.D.S Clock Shield
②	T.M.D.S Data2 Shield	⑫	T.M.D.S Clock-
③	T.M.D.S Data2-	⑬	CEC
④	T.M.D.S Data1+	⑭	Reserved (N.C. on device)
⑤	T.M.D.S Data1 Shield	⑮	SCL
⑥	T.M.D.S Data1-	⑯	SDA
⑦	T.M.D.S Data0+	⑰	DDC/CEC Ground
⑧	T.M.D.S Data0 Shield	⑱	+5V Power
⑨	T.M.D.S Data0-	⑲	Hot Plug Detect
⑩	T.M.D.S Clock+		



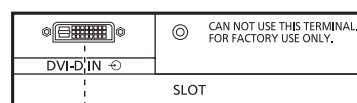
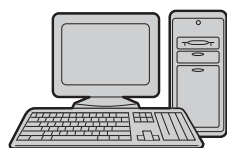
### Note:

Additional equipment and HDMI cable shown are not supplied with this set.

## DVI-D IN connection

This unit has terminal boards equivalent to DVI-D Terminal Board (TY-FB11DD) as standard equipment.

PC with DVI-D video out

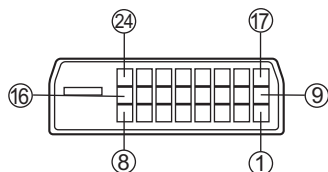


Audio Input is not available.



DVI-video cable (Within 5 m)

### DVI-D Input Connector Pin Layouts



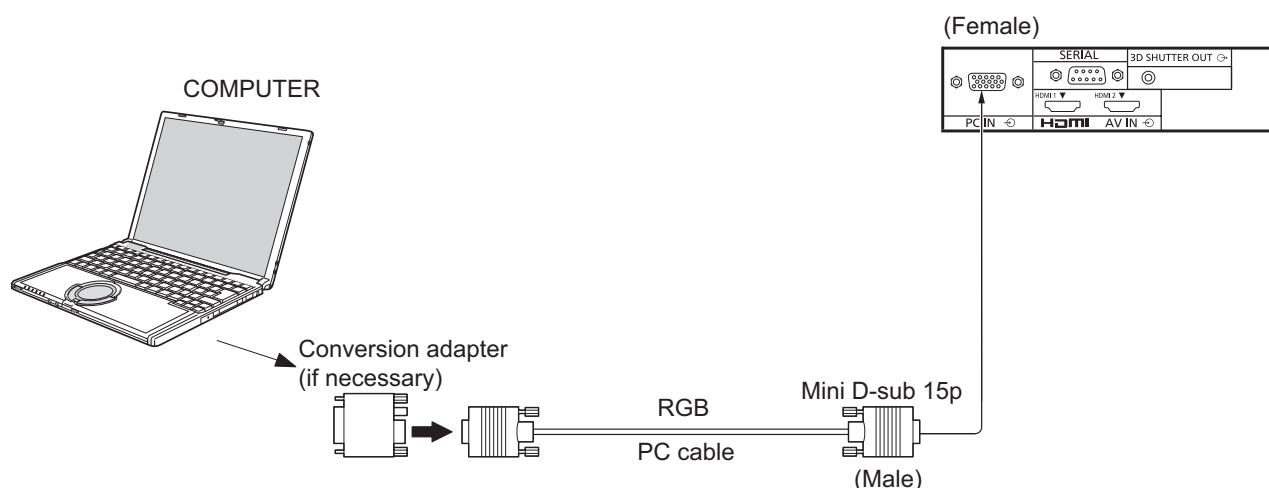
Connection port view

Pin No.	Signal Name	Pin No.	Signal Name
①	T.M.D.S. data 2-	⑬	
②	T.M.D.S. data 2+	⑭	+5 V DC
③	T.M.D.S. data 2 shield	⑮	Ground
④		⑯	Hot plug detect
⑤		⑰	T.M.D.S. data 0-
⑥	DDC clock	⑱	T.M.D.S. data 0+
⑦	DDC data	⑲	T.M.D.S. data 0 shield
⑧		⑳	
⑨	T.M.D.S. data 1-	㉑	
⑩	T.M.D.S. data 1+	㉒	T.M.D.S. clock shield
⑪	T.M.D.S. data 1 shield	㉓	T.M.D.S. clock+
⑫		㉔	T.M.D.S. clock-

### Notes:

- Additional equipment and cables shown are not supplied with this set.
- Use the DVI-D cable complying with the DVI standard. Image deterioration may occur depending on the length or the quality of the cable.

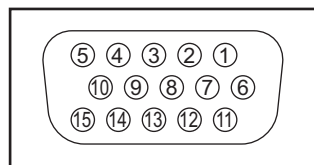
## PC Input Terminals connection



### Notes:

- With regard to the typical PC input signals that are described in the applicable input signals list (see page 47), adjustment values such as for the standard picture positions and sizes have already been stored in this unit. You can add up to eight PC input signal types that are not included in the list.
- Computer signals which can be input are those with a horizontal scanning frequency of 15 to 110 kHz and vertical scanning frequency of 48 to 120 Hz. (However, the image will not be displayed properly if the signals exceed 1,200 lines.)
- If the number of pixels of input signal exceeds the following maximums, it may not be possible to show the fine detail with sufficient clarity. (SXGA compatible)  
For vertical: 1,080 dots  
For horizontal: 1,440 dots when the aspect mode is set to "4:3"  
1,920 dots when the aspect mode is set to "16:9"
- The PC input terminals are DDC2B-compatible. If the computer being connected is not DDC2B-compatible, you will need to make setting changes to the computer at the time of connection.
- Some PC models cannot be connected to the set.
- There is no need to use an adapter for computers with DOS/V compatible Mini D-sub 15P terminal.
- The computer shown in the illustration is for example purposes only.
- Additional equipment and cables shown are not supplied with this set.
- Do not set the horizontal and vertical scanning frequencies for PC signals which are above or below the specified frequency range.
- To use sync input VBS signals, use the connector which incorporates a 75-ohm termination resistance and which is available on the market, for the connection of the HD connector where the VBS signals are to be input.

### Signal Names for Mini D-sub 15P Connector

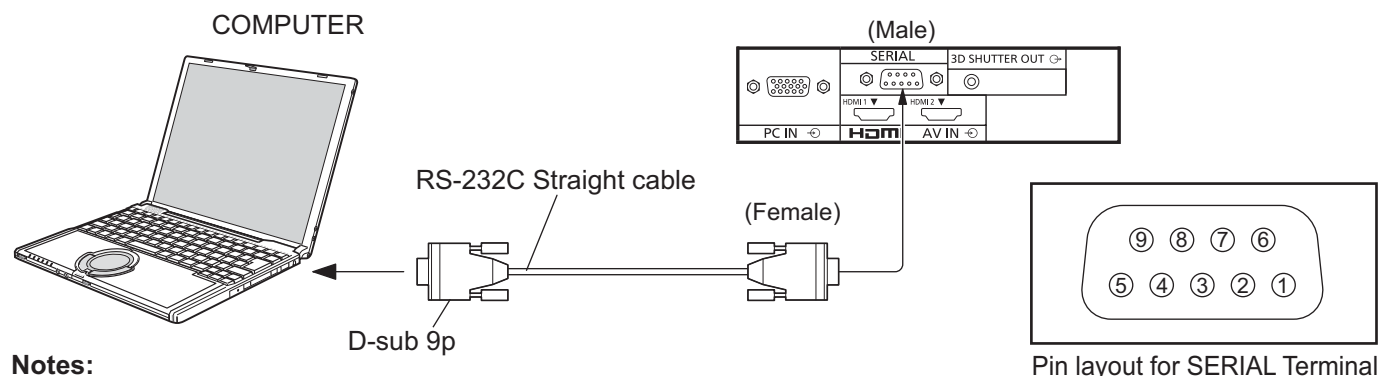


Pin Layout for PC Input Terminal

Pin No.	Signal Name	Pin No.	Signal Name	Pin No.	Signal Name
①	R	⑥	GND (Ground)	⑪	NC (not connected)
②	G	⑦	GND (Ground)	⑫	SDA
③	B	⑧	GND (Ground)	⑬	HD/SYNC
④	NC (not connected)	⑨	+5 V DC	⑭	VD
⑤	GND (Ground)	⑩	GND (Ground)	⑮	SCL

## SERIAL Terminals connection

The SERIAL terminal is used when the Plasma Display is controlled by a computer.



### Notes:

- Use the RS-232C straight cable to connect the computer to the Plasma Display.
- The computer shown is for example purposes only.
- Additional equipment and cables shown are not supplied with this set.

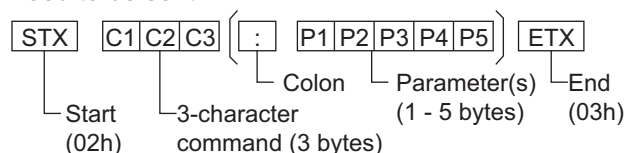
The SERIAL terminal conforms to the RS-232C interface specification, so that the Plasma Display can be controlled by a computer which is connected to this terminal. The computer will require software which allows the sending and receiving of control data which satisfies the conditions given below. Use a computer application such as programming language software. Refer to the documentation for the computer application for details.

### Communication parameters

Signal level	RS-232C compliant
Synchronization method	Asynchronous
Baud rate	9600 bps
Parity	None
Character length	8 bits
Stop bit	1 bit
Flow control	-

### Basic format for control data

The transmission of control data from the computer starts with a STX signal, followed by the command, the parameters, and lastly an ETX signal in that order. If there are no parameters, then the parameter signal does not need to be sent.



### Notes:

- If multiple commands are transmitted, be sure to wait for the response for the first command to come from this unit before sending the next command.
- If an incorrect command is sent by mistake, this unit will send an "ER401" command back to the computer.

### Signal names for D-sub 9P connector

Pin No.	Details
②	R X D
③	T X D
⑤	GND
④ • ⑥	Non use
⑦ ⑧	(Shorted in this set)
① • ⑨	NC

These signal names are those of computer specifications.

### Command

Command	Parameter	Control details
PON	None	Power ON
POF	None	Power OFF
IMS	None SL1 SD1 DV1 HM1 HM2 PC1	Input select (toggle) SLOT input (SLOT INPUT) SDI IN input (4K-SDI) DVI-D IN input (4K-DVI) HDMI 1 input (HDMI1) HDMI 2 input (HDMI2) PC IN input (PC)
DAM	None ZOOM  FULL JUST NORM ZOM2 ZOM3 SJST SNOM SFUL 14:9	Screen mode select (toggle) Zoom1 (For Video/SD/PC signal) 16:9 Just (For Video/SD signal) 4:3 (For Video/SD/PC signal) Zoom2 (For HD signal) Zoom3 (For HD signal) Just (For HD signal) 4:3 (For HD signal) 4:3 Full (For HD signal) 14:9

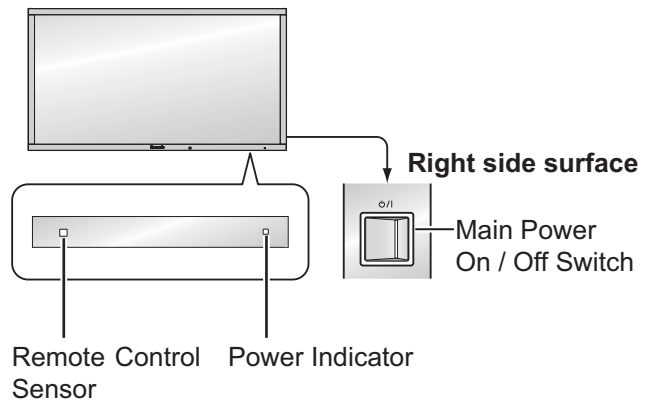
With the power off, this display responds to PON command only.

# Power On / Off

Turn on the breaker dedicated to the Plasma Display.

Press the Power switch on the Plasma Display to turn the set on: Power-On.

Power Indicator: Green



Press the button on the remote control to turn the Plasma Display off.

Power Indicator: Red (standby)



Press the button on the remote control to turn the Plasma Display on.

Power Indicator: Green

Turn the power to the Plasma Display off by pressing the switch on the unit, when the Plasma Display is on or in standby mode.

## Note:

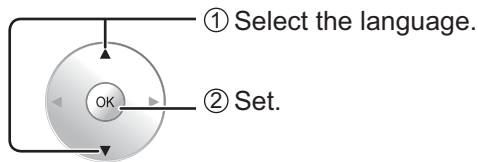
During operation of the power management function, the power indicator turns orange in the power off state.



### When first switching on the unit

Following screen will be displayed when the unit is turned on for the first time.  
Select the items with the remote control. Unit buttons are invalid.

### OSD Language



#### Notes:

- Once the language is set, this screen won't be displayed when switching on the unit next time.
- After the setting, language selection can be done from the Setup menu. (see page 35)



### 3D Safety Precautions

Activate 3D Safety Precautions if you deliver 3D images to unspecified audiences for business or other purposes. The 3D Safety Precautions will be displayed every time the power is turned on, if you set the "3D Safety Precautions" on the Options menu to "On". (see page 44)

When 3D images will be viewed by unspecified number of people or used for commercial applications, someone in authority should convey the following precautions.  
These precautions should be followed in the home as well.

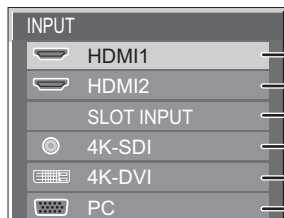
#### 3D Viewing/ 3D Content/ Viewing distance/ 3D Eyewear recommendations

- To enjoy 3D images safely and comfortably, please read the Operating Instructions fully.

# Selecting the input signal



Press to select the input signal to be played back from the equipment which has been connected to the Plasma Display.



- HDMI input terminal in HDMI 1.
- HDMI input terminal in HDMI 2.
- Input terminal in Terminal Board.\*
- 4k2k HD-SDI input terminal in SDI IN.
- 4k2k DVI-D input terminal in DVI-D IN.
- PC input terminal in PC IN.

\* "SLOT INPUT" appears when the Terminal Board is connected.



## Using dedicated buttons for input selection



Press to select HDMI signal terminals in HDMI 1 or HDMI 2.



Press to select 4k2k signal in SDI IN or DVI-D IN.



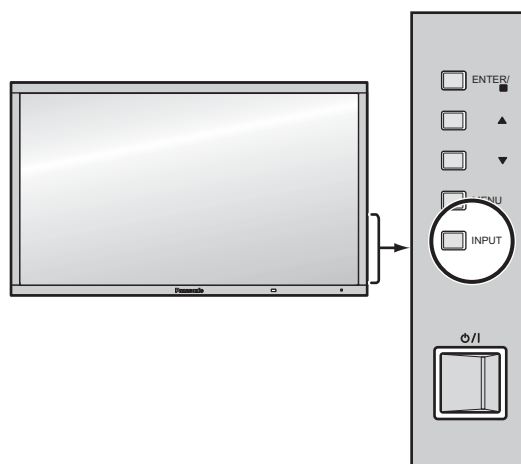
Press to select PC signal terminal in PC IN.



Press to select Input terminal in Terminal Board.

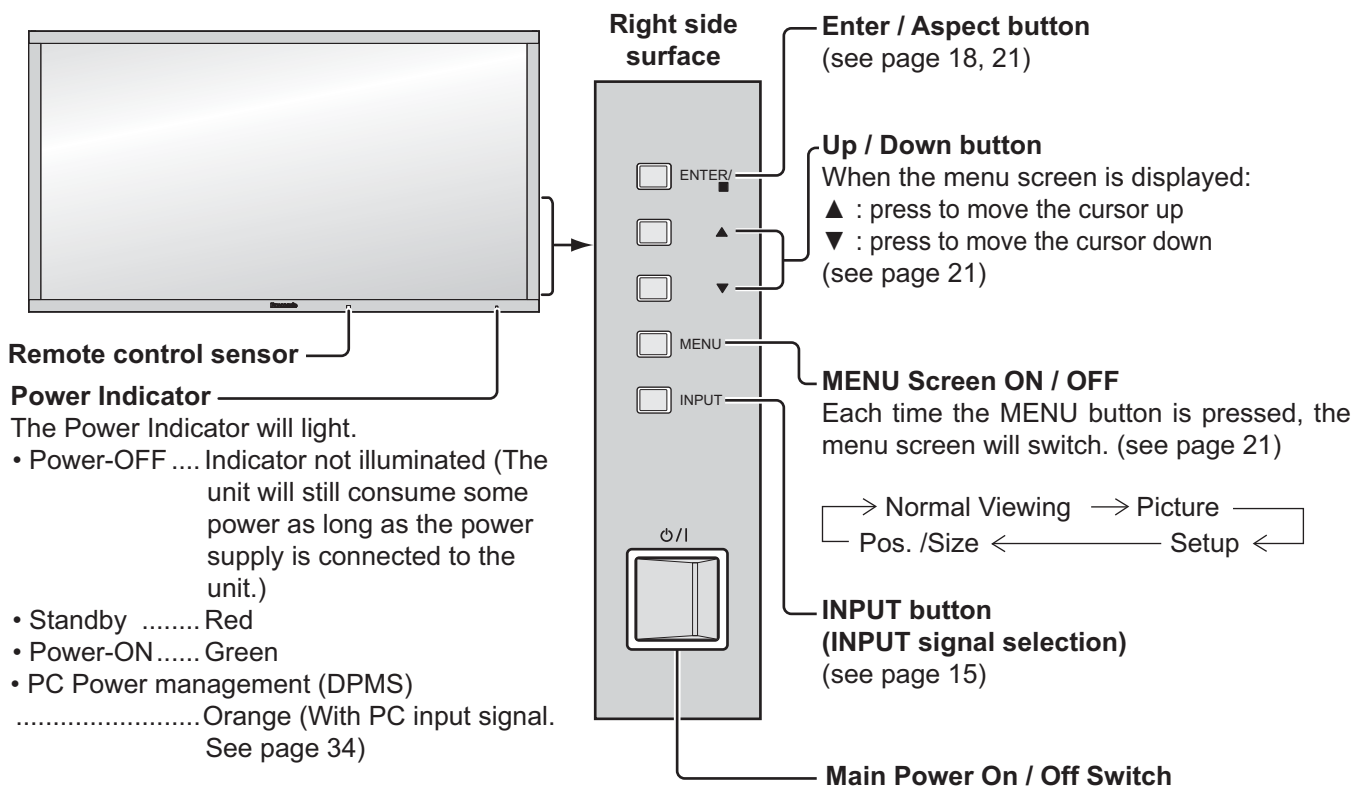
## Notes:

- Selecting is also possible by pressing the INPUT button on the unit.
- Image retention (image lag) may occur on the plasma display panel when a still picture is kept on the panel for an extended period. The function that darkens the screen slightly is activated to prevent image retention (see page 45), but this function is not the perfect solution to image retention.

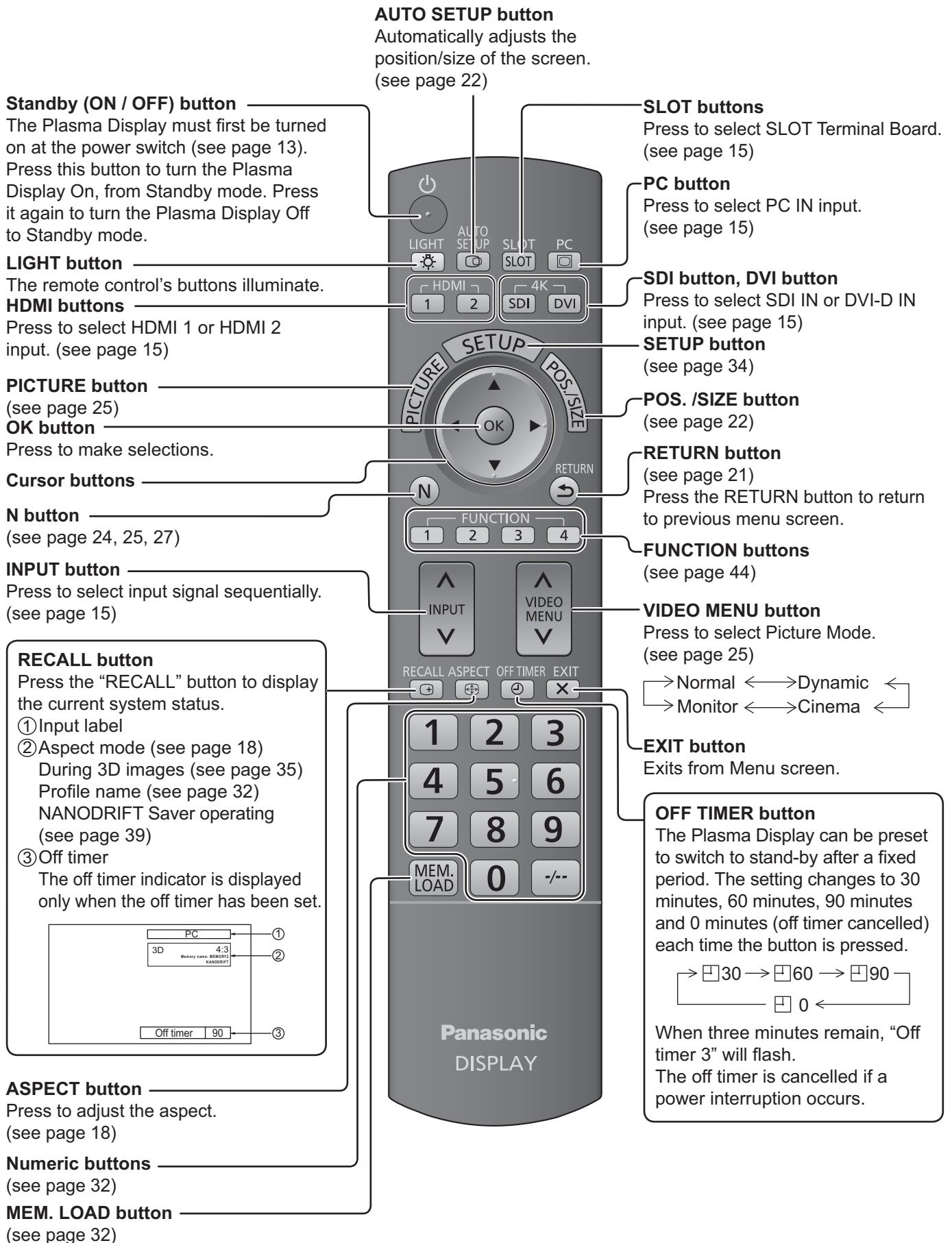


# Basic Controls

## Main Unit



## Remote Control Transmitter



# ASPECT Controls

The Plasma Display will allow you to enjoy viewing the picture at its maximum size, including wide screen cinema format picture.

ASPECT

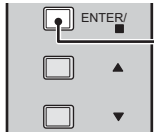


Press repeatedly to move through the aspect options:

For details about the aspect mode, please see "List of Aspect Modes" (page 46).

[from the unit]

## Right side surface



The aspect mode changes each time the ENTER button is pressed.



## Aspect Mode

You can select the aspect mode from the following 3 modes. Make the mode setting in "Aspect Mode" of the Options menu. (see page 43)

Mode1, Mode2, All Aspect

The factory setting is "Mode1".

### [Aspect mode for 3D images and 4k2k signal]

The aspect is fixed as "16:9" and you cannot switch.

### Mode1 (Factory setting)

For PC signal input:

→ 4:3 → Zoom → 16:9

For SD signal input (525 (480) / 60i • 60p, 625 (575) / 50i • 50p):

→ 4:3 → Zoom1 → Zoom2 → Zoom3 → 16:9 → 14:9 → Just

For HD signal input [1125 (1080) / 60i • 50i • 60p • 50p • 24p • 25p • 30p • 24sF, 1250 (1080) / 50i, 750 (720) / 60p • 50p]:

→ 4:3 → 4:3 Full → Zoom1 → Zoom2  
Just ← 14:9 ← 16:9 ← Zoom3 ←

### Mode2

For PC signal input:

→ 4:3 → Zoom → 16:9

For SD signal input (525 (480) / 60i • 60p, 625 (575) / 50i • 50p):

→ 4:3 → Zoom → 16:9 → Just

For HD signal input [1125 (1080) / 60i • 50i • 60p • 50p • 24p • 25p • 30p • 24sF, 1250 (1080) / 50i, 750 (720) / 60p • 50p]:

→ 4:3 → 4:3 Full → Zoom  
Just ← 16:9 ←

### All Aspect

For PC signal input:

→ 4:3 → Zoom → 16:9

For SD signal input (525 (480) / 60i • 60p, 625 (575) / 50i • 50p):

→ 4:3 → Zoom1 → Zoom2 → Zoom3 → 16:9 → 14:9 → Just

For HD signal input [1125 (1080) / 60i • 50i • 60p • 50p • 24p • 25p • 30p • 24sF, 1250 (1080) / 50i, 750 (720) / 60p • 50p]:

→ 4:3 Full → Zoom1 → Zoom2 → Zoom3 → 16:9 → 14:9 → Just1 → Just2 → 4:3 (1) → 4:3 (2)

### Notes:

- Be aware that if you put the display in a public place for commercial purposes or a public showing and then use the aspect mode select function to shrink or expand the picture, you may be violating the copyright under copyright law. It is prohibited to show or alter the copyrighted materials of other people for commercial purposes without the prior permission of the copyright holder.
- The aspect mode is memorized separately for each input terminal.
- Do not allow the picture to be displayed in 4:3 mode for an extended period, as this can cause a permanent image retention to remain on the Plasma Display Panel.

# Viewing 3D images

You can enjoy viewing 3D images with contents or programmes compatible with 3D effect by using the 3D eyewear (optional).

**Note:**

You need the 3D IR TRANSMITTER (optional) and the 3D eyewear (optional) to view the 3D images on this display. For further information, see the instruction manuals of the 3D IR TRANSMITTER and the 3D eyewear.

This display supports "Frame Sequential"<sup>\*1</sup>, "Side by Side"<sup>\*2</sup> and "Top and Bottom"<sup>\*3</sup> 3D formats.

<sup>\*1</sup>: The 3D format that the images for the left and right eyes are recorded with the high definition quality and alternately played back

<sup>\*2</sup>, <sup>\*3</sup>: Other available 3D formats

---

## To view the 3D images

---

**To view the contents of the Frame Sequential format (ex. 3D-compatible Blu-ray Disc, etc.) with 3D effect**

Connect the 3D-compatible player via an HDMI cable (see page 10) and playback the contents.

- Use fully wired HDMI compliant cable.
- For the settings of the player, read the manual of the player.
- If you use the non 3D-compatible player, the images will be displayed without 3D effect.

**To view the contents of 3D formats other than Frame Sequential with 3D effect.**

Match the picture format in "3D Picture Format" (see page 35) before viewing.

- You can view "Side by Side" and "Top and Bottom" with 3D effect even if you use the non 3D-compatible player.
- Please consult the suppliers of contents or programmes for availability of this service.

① **Turn the 3D Eyewear on**

- See the instruction manual of 3D eyewear for handling.

② **Put on the 3D Eyewear**

③ **Watch the 3D images**

**Note:**













- If the room is lit by fluorescent lights (50 Hz) and light appears to flicker when using the 3D Eyewear, switch off the fluorescent light.
- 3D content will not be correctly visible if the 3D Eyewear is worn upside down or back-to-front.
- Do not wear the 3D Eyewear when watching anything other than 3D images. Liquid crystal displays (such as computer screens, digital clocks or calculators, etc.) may be difficult to see while wearing the 3D Eyewear.
- Do not use the 3D Eyewear as sunglasses.
- 3D effects may be perceived differently depending on the person.

## Troubleshooting for 3D Eyewear

Symptoms	Checks
Cannot see 3D images	<ul style="list-style-type: none"> <li>• Has the 3D Eyewear been switched On?</li> <li>• Ensure that “3D Picture Display” in “3D Settings” is set to “3D”. (see page 35)</li> <li>• Some 3D image signals may not be automatically recognized as 3D images. Set “3D Picture Format” in “3D Settings” to match the picture format. (see page 35)</li> <li>• Check that there are no obstacles between the infrared sensors on the display and the 3D Eyewear. If the 3D Eyewear stops receiving the infrared signal for about 5 minutes, the 3D Eyewear will be turned off automatically.</li> <li>• Check the available area to use the 3D Eyewear.</li> <li>• Depending on the person, the 3D images may be difficult to see, or cannot be seen, especially in users that have a different level of eyesight between the left and right eyes. Take the necessary steps (wearing glasses etc.) to correct your eyesight before use.</li> </ul>
3D Eyewear is turned off automatically	<ul style="list-style-type: none"> <li>• Check that there are no obstacles between the infrared sensors on the display and the 3D Eyewear or that the 3D Eyewear is placed inside the coverage area. If the 3D Eyewear stops receiving the infrared signal for about 5 minutes, the 3D Eyewear will be turned off automatically.</li> </ul>
There is something wrong with the 3D images	<ul style="list-style-type: none"> <li>• Check the setting of “3D Picture Sequence”. (see page 35)</li> </ul>
The indicator lamp does not light when pressing the power button on the 3D Eyewear	<ul style="list-style-type: none"> <li>• The battery may be running low or flat. Replace it.</li> </ul>

## Table of images that can be seen for each 3D Picture Format and the source image format

If the picture appears to be abnormal, refer to the table below to choose the correct 3D picture format setting.

3D Picture Format Source image format	Auto	Side by Side	Top and Bottom	Native
Side by side	 *1	 Normal*2		
Top and bottom	 *1		 Normal*2	
Normal format (2D)	 Normal			 Normal

\*1 When the source image is not recognized correctly

\*2 When “3D Picture Display” is set to “3D”, the images will be displayed with 3D effect. When set to “2D”, displayed without 3D effect.

• Depending on the player or contents, the image may be different from the above illustrations.

# On-Screen Menu Displays

## Remote Control

## Unit

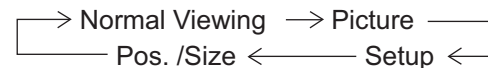
### 1 Display the menu screen.

Press to select. —————  
(Example: Picture menu)

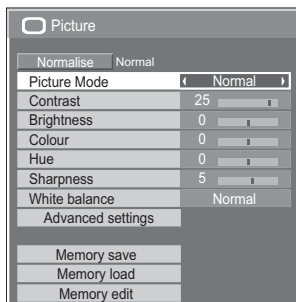


Press several times.

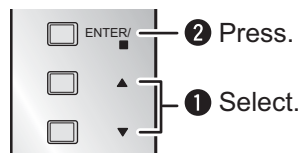
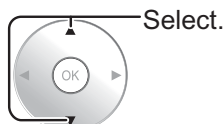
Each time the MENU button is pressed, the menu screen will switch.



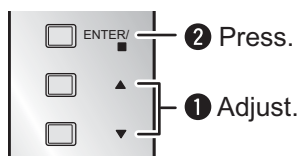
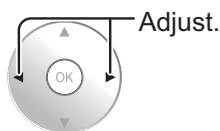
### 2 Select the item.



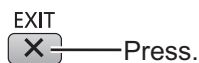
(Example: Picture menu)



### 3 Set.



### 4 Exit the menu.

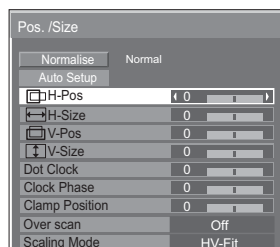


Press to return to the previous menu.



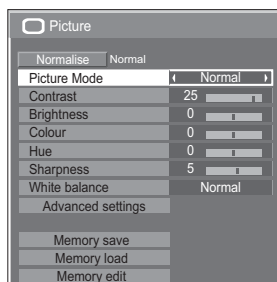
## Menu display list

### Pos. /Size menu



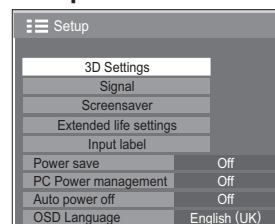
see page 22-24

### Picture menu




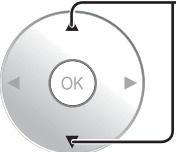
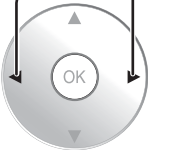

see page 25-33

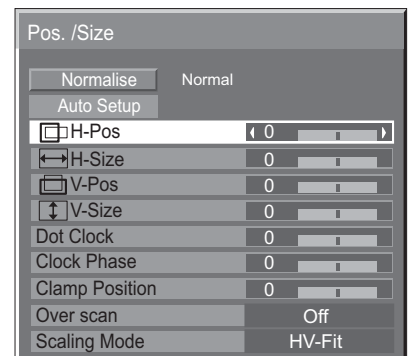
### Setup menu



see page 34-41

# Adjusting Pos. /Size

- 1  Press to display the Pos. /Size menu.
- 2  Press to select the menu to adjust.
- 3  Press to adjust the menu.
- 4  Press to exit from adjust mode.



## Note:

Unadjustable items are grayed out.

Adjustable items differ depending on the input signal and the display mode.

## Note:

If a "Cue" or "Rew" signal from a VCR or DVD player is received, the picture position will shift up or down. This picture position movement cannot be controlled by the Picture Pos./Size function.

**Auto Setup** H-Pos/V-Pos, H-Size/V-Size, Dot Clock and Clock Phase are automatically adjusted when the RGB or PC signal is received.

This setting is enabled under the following conditions:

- When the signal is not PC format, this setting is enabled only if "Over scan" (see page 23) is "Off", and H-Size/V-Size is not automatically adjusted.

This setting will be invalid and will not work under the following conditions:

- Aspect is set to "Just"
- "Under scan" is set to "On"

## Using Remote Control



When  on the remote control is pressed, "Auto Setup" will be executed.

When Auto Setup does not work, "Invalid" is displayed.

## Auto mode

When the "Auto Setup" is set to "Auto" in the Options menu (see page 43), automatic position adjustment starts:

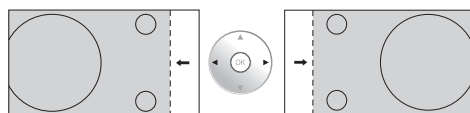
- When the display power is turned ON.
- When the input signal is switched.

## Notes:

- If the dot clock frequency is 162 MHz or higher, Dot Clock and Clock Phase cannot be made.
- When digital RGB signal input, Dot Clock and Clock Phase cannot be made.
- Auto Setup may not work when a cropped or dark image is input. In such case, switch to a bright image with borders and other objects are clearly shown, and then try auto setup again.
- Depending on the signal, out of alignment may occur after Auto Setup. Carry out fine tuning for the position/size as required.
- If Auto Setup cannot set properly for vertical frequency 60Hz XGA signal (1024×768@60Hz, 1280×768@60Hz, and 1366×768@60Hz), pre-selecting the individual signal in "XGA Mode" (see page 36) may results in correct Auto Setup.
- Auto Setup does not work well when a signal such as additional information is superimposed out of valid image period or intervals between synchronizing and image signals are short, or for image signal with tri-level synchronizing signal added.
- If Auto Setup cannot adjust correctly, select "Normalise" once and press OK button, then adjust Pos. /Size manually.

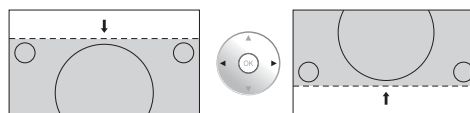
## H-Pos

Adjust the horizontal position.



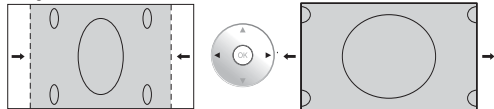
## V-Pos

Adjust the vertical position.



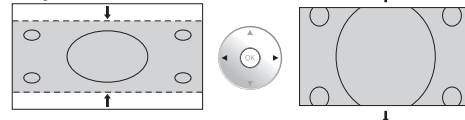
## H-Size

Adjust the horizontal size.



## V-Size

Adjust the vertical size.



## Dot Clock (During RGB and PC input signal)

Periodic striped pattern interference (noise) may occur when a striped pattern is displayed. If this happens, adjust so that any such noise is minimized.

## Clock Phase

(During RGB and PC input signal)  
Eliminate the flickering and distortion.

## Over scan Turn image over scan On/Off.

Configurable signals are as follows:

525i, 525p, 625i, 625p, 750/60p, 750/50p, 1125 (1080) / 50i · 60i · 24sF · 24p · 25p · 30p · 50p · 60p,  
1250 (1080) / 50i (RGB, DVI, SDI, HDMI)



On

Off

### Notes:

- When "Off" is set, "H-Size" and "V-Size" cannot be adjusted.
- When the "Under scan" is set to "On", this setting will be invalid.

## Clamp Position

(During RGB input signal)

Adjusts the clamp position when black parts of the image have no detail due to underexposure or are tinged with green.

### Optimum value for Clamp Position adjustment

When black parts have no detail due to underexposure (blackout)

→ Value that causes least blackout is the optimum.

When black parts are tinged with green

→ Value that cancels the greenishness without causing blackout is the optimum.

## Under scan

Adjusts the image display size on screen.

**Off:** Sets the normal image display size on screen.

**On:** Sets the image display size approximately 95 % of the normal image display.



### Notes:

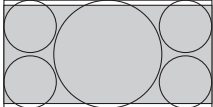
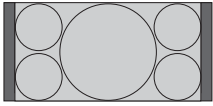
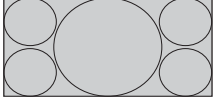
- "Under scan" can be modified when "Studio mode" in the Options menu is "On". When "Studio mode" is "Off", this setting is "Off" and cannot be changed. (see page 43)
- This setting is valid only when the input signals are as follows;  
525i, 525p, 625i, 625p, 750/60p, 750/50p, 1125/60i, 1125/50i, 1125/24sF, 1125/25p, 1125/24p, 1125/30p, 1125/60p, 1125/50p, 1250/50i (RGB, DVI, SDI, HDMI)
- When "Under scan" is set to "On", "H-Pos" and "V-Pos" in "Pos. /Size" can be adjusted.
- Refer to each board's operating instruction for DVI, SDI's corresponding signals.

## Adjusting Pos. /Size

### Scaling Mode

Selects the pattern to display the 1920 x 1080 (16:9) image on the 4096 x 2160 (17:9) display. The image size is adjusted according to the aspect mode and is enlarged horizontally or vertically, or its sides are masked.

Example: Aspect is 16:9

Scaling Mode	Vertically enlarged	Horizontally enlarged	Side masking	Image
H-Fit	V: 16/15 times	H: 16/15 times	Not adjusted	
V-Fit	V: Same size	H: Same size	Adjusted	
HV-Fit	V: Same size	H: 16/15 times	Not adjusted	

### Note:

When the input signal is a 4k2k or 2k1k signal, the setting is cancelled.

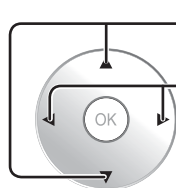
### Helpful Hint ( / Normalisation)

While the Pos. /Size display is active, if either the N button on the remote control is pressed at any time or the OK button is pressed during "Normalise", then all adjustment values are returned to the factory settings.

# Picture Adjustments

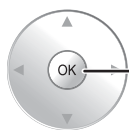
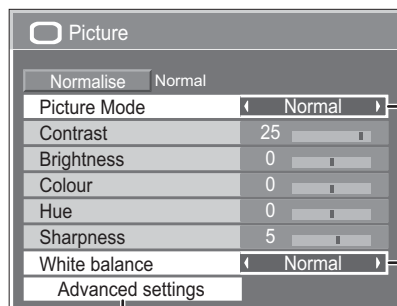
**1**  Press to display the Picture menu.

**2** Select to adjust each item.

 Press to select the menu to adjust.  
Select the desired level by looking at the picture behind the menu.

**Note:**

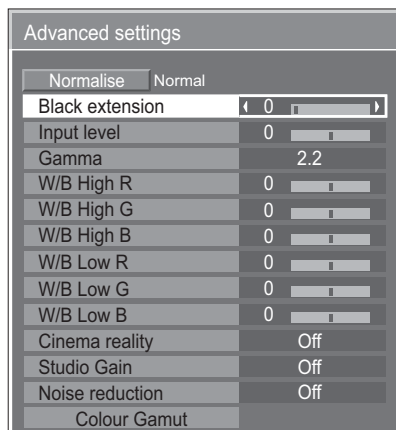
Menu that cannot be adjusted is grayout. Adjustable menu changes depending on signal, input and menu setting.



Press to enter Advanced settings.

## Advanced settings

Enables fine picture adjustment at a professional level (see next page).



Press “◀” or “▶” button to switch between modes.

→ Normal ← → Dynamic ←  
→ Monitor ← → Cinema ←

### Normal

For viewing in standard (evening lighting) environments. This menu selects the normal levels of Brightness and Contrast.

### Dynamic

For viewing in brighter environments. This menu selects higher than normal levels of Brightness and Contrast.

### Cinema

Ideal for movies.

### Monitor

For use when creating broadcast or movie content. With this picture, even if the overall average picture level (APL) changes, the brightness of areas with the same signal level does not change.

### Notes:

- When “Monitor” is selected in Picture Mode, the following menu items cannot be set.  
Picture menu: Contrast  
Extended life settings: Peak limit (see page 38)  
Setup menu: Power save (see page 34)
- If you would like to change the picture and colour of the selected Picture menu to something else, adjust using the items in the Picture menu. (see next page)

Press “◀” or “▶” button to switch between modes.

→ Normal ↔ Warm ↔ Warm2 ←  
→ Cool ↔ Studio\* ↔ Warm3 ←

\* “Studio” can be modified when “Studio mode” in the Options menu is “On”. (see page 43)

**Normal:** Intermediate color temperature.

**Warm:** Colors with a reddish tinge.

**Warm2:** Colors with a reddish tinge (6100K).

**Warm3:** Colors with a reddish tinge (5600K).











**Studio:** Optimal color temperature for studio viewing (3200K).

**Cool:** Colors with a bluish tinge.

## Helpful Hint ( / Normalisation)

While the “Picture” menu is displayed, if either the N button on the remote control is pressed at any time or the OK button is pressed during “Normalise”, then all adjustment values are returned to the factory settings.

## Picture Adjustments

Item	Effect	Adjustments
<b>Contrast</b>	 Less  More	Selects the proper brightness and density for the room.
<b>Brightness</b>	 Darker  Brighter	Adjusts for easier viewing of dark pictures such as night scenes and black hair.
<b>Colour</b>	 Less  More	Adjusts colour saturation.
<b>Hue</b>	 Reddish  Greenish	Adjusts for nice skin colour.
<b>Sharpness</b>	 Less  More	Adjusts picture sharpness.













### Notes:

- You can change the level of each function (Contrast, Brightness, Colour, Hue, Sharpness) for each Picture Mode.
- The setting details for Normal, Dynamic, Cinema and Monitor respectively are memorized separately for each input terminal.
- In Contrast, there is not a noticeable change even when contrast is increased with a bright picture or reduced with a dark picture.

## Advanced settings

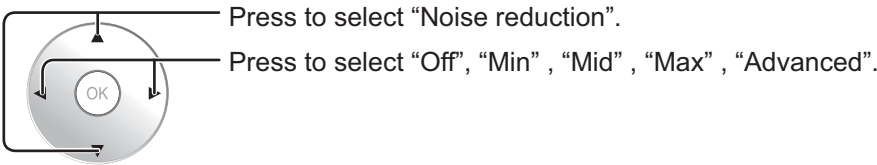
### Notes:

- The adjustment values are memorized separately for each input terminal.
- The adjustment range values should be used as an adjustment reference.

Item	Effect	Details
<b>Black extension</b>	 Less  More	Adjusts the dark shades of the image in gradation.
<b>Input level</b>	 Less  More	Adjustment of parts which are extremely bright and hard to see.
<b>Gamma</b>	 Down  Up	S Curve $\longleftrightarrow$ 2.0 $\longleftrightarrow$ 2.2 $\longleftrightarrow$ 2.6
<b>“W/B” adjustment</b>	 Less  More	<p><b>W/B High R/G/B:</b> Adjusts the white balance for light red, light green or light blue areas.</p> <p><b>W/B Low R/G/B:</b> Adjusts the white balance for dark red, dark green or dark blue areas.</p> <p>Carry out “W/B” adjustment as follows.</p> <ol style="list-style-type: none"> <li>Adjust the white balance of the bright sections using the “W/B High R”, “W/B High G” and “W/B High B” settings.</li> <li>Adjust the white balance of the dark sections using the “W/B Low R”, “W/B Low G” and “W/B Low B” settings.</li> <li>Repeat steps 1 and 2 to adjust.</li> </ol> <p>Steps 1 and 2 affect each other's settings, so repeat each step in turn to make the adjustment.</p>
<b>Cinema reality</b>	 Off  On	<p>When “on”, the display attempts to reproduce a more natural interpretation of sources such as movie pictures, which are recorded at 24 frames per second. If the picture is not stable, turn the setting to “off”.</p> <p><b>Note:</b></p> <p>When On, this setting only affects the following signal input: 525i (480i), 625i (575i), 1125 (1080) / 60i</p>
<b>Studio Gain</b>	 Off  On	<p>Sharpens the contrast for a better view when a part of the image is too light to see.</p> <p><b>Off:</b> Disables “Studio Gain”.</p> <p><b>On:</b> Enables “Studio Gain”.</p> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>“Studio Gain” can be modified when “Studio mode” in the Options menu is “On”. When “Studio mode” is “Off”, this setting is “Off” and cannot be changed. (see page 43)</li> <li>This setting is valid only when the input signals are as follows: RGB (analog), SDI, HDMI</li> </ul>

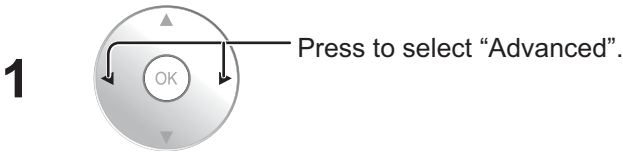
• Noise reduction

Sets the following three NR (Noise Reduction) functions together.  
P-NR, Mosquito NR, Block NR

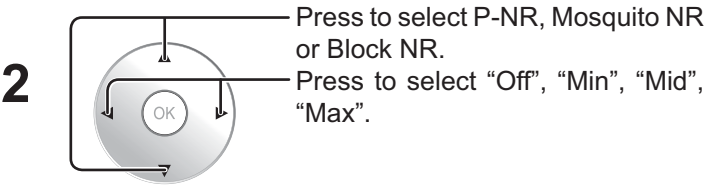


Advanced NR

Sets the three NR functions separately.



Noise reduction	Advanced
P-NR	Off
Block NR	Off
Mosquito NR	Off



Noise reduction	Advanced
P-NR	Off
Block NR	Off
Mosquito NR	Off

- P-NR:** Automatically reduces unwanted picture noise.  
**Block NR:** Reduces block noise when playing MPEG videos.  
**Mosquito NR:** Reduces mosquito noise around subtitles on MPEG videos.

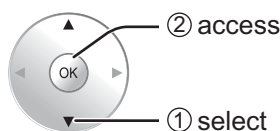
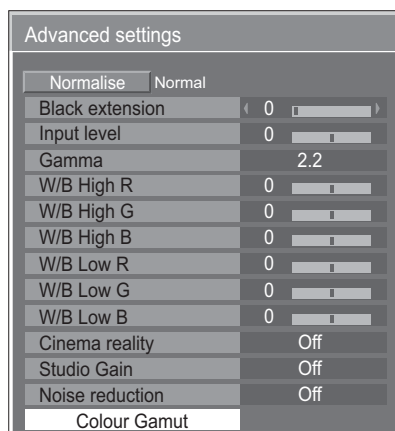
**Note:**  
Noise reduction cannot be adjusted while a PC signal is being applied.

Helpful Hint (  /  Normalisation)

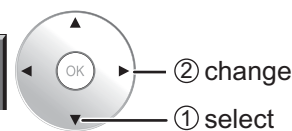
On the remote control unit, while the “Advanced settings” menu is displayed, if either the N button is pressed at any time or the OK button is pressed during “Normalise”, then all adjustment values are returned to the factory settings.

## Colour space adjustment (Colour Gamut)

Changes the colour space to BT.709 signal standard chromaticity point and fine-tunes it.



Select the item and set.



### • Colour Gamut

**DIGITAL CINEMA COLOUR:** Sets color gamut to reproduce the original color of movies.

**Custom:** Enables the colour space adjustment, the colour space adjustment set in the “EDIT” is reflected.

**Native:** Disables the colour space adjustment, images are displayed in the original colour gamut of the panel.

**HDTV Colour:** Changes the colour space to BT.709 signal standard chromaticity point.

**Notes:**

- This setting is memorized separately for each input terminal and “Picture Mode”.
- For 3D images, this setting becomes “Native” and no setting is available.

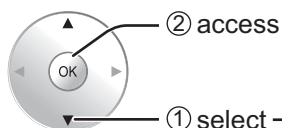
### • Edit

Colour space is fine-tuned.

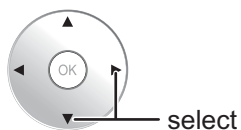
**Notes:**

- This setting is valid when “Colour Gamut” is “Custom”.
- This setting is memorized separately for each input terminal and “Picture Mode”.

1 Select “Edit”.

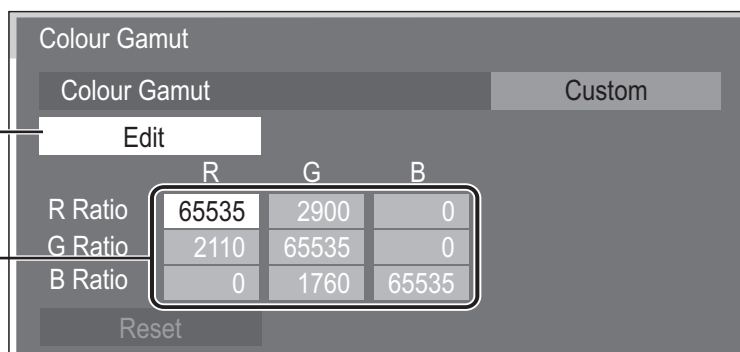


2 Select an adjustment item.



3 Change the numerical value.

65535



[To adjust with the ▲▼ button]

- ① Press the button.
- ② Change the numerical value with the ▲▼ button.
- ③ Press the button.

[To input the numerical value directly]

- ① Input the numerical value from to .
- Pressing the will cancel the value change.
- ② Press the button.

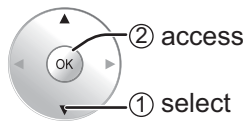
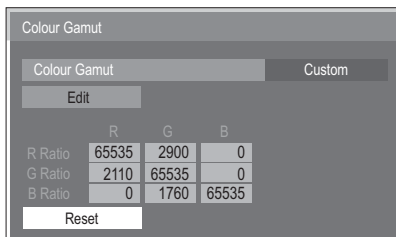
4 Press the button.  
Adjustment is ended.

- **Reset** Resets the adjustment value of colour space.

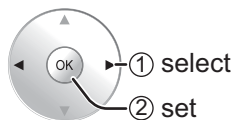
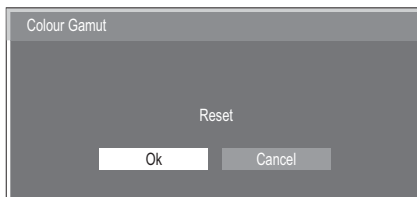
**Note:**

This setting is reflected only for the selected input terminal and the "Picture Mode".

**1** Select "Reset".

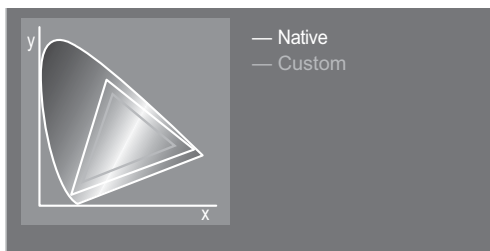


**2** Select "Ok".



- **Chromaticity diagram** The RGB triangle representing current colour space is shown.

**Colour Gamut: Custom**



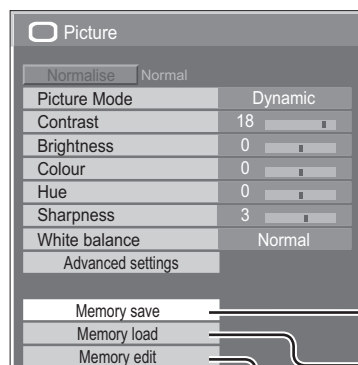
White line: Colour gamut with "Native" setting (original colour gamut.)  
 Yellow line: Colour gamut with "Custom" setting (current colour gamut.)

# Picture Profiles

Up to 16 combinations of picture adjustment values (in the Picture menu and Advanced settings) can be stored in the display memory as profiles and applied as needed, for a convenient way to enjoy your preferred picture settings.

## Note:

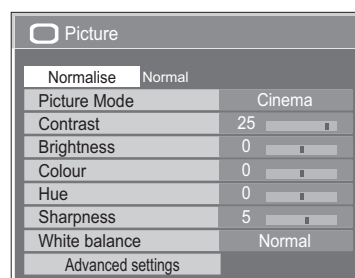
If setting items (Picture menu and Advanced settings) are set differently between Memory save and Memory load, they may not reflect for Memory load.



**Save profiles**(page 31)

**Load profiles**(page 32)

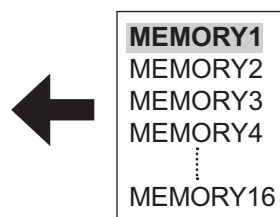
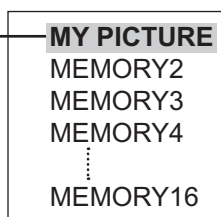
**Edit profiles**(page 33)



**Save profiles**

Save the picture adjustment values in the MEMORY1 profile

**Edit the profile**  
Delete or rename the profile



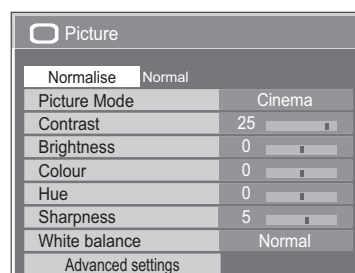
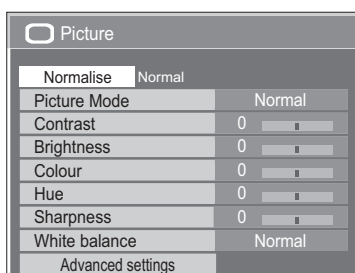
**Load the profile**

Apply the MEMORY1 profile

**Original picture**



**Custom picture**



# Saving profiles

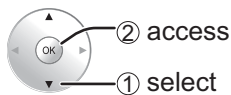
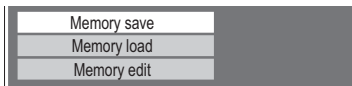
Follow these steps to save picture adjustment values as profiles.

## Note:

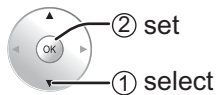
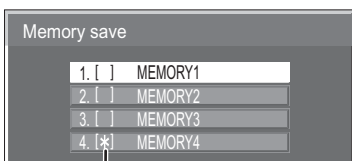
When the settings are locked in “Extended life settings”, profiles cannot be saved.

**1** Specify the picture quality in the Picture menu and Advanced settings. (see page 25, 26)

**2** In the Picture menu, select “Memory save”.

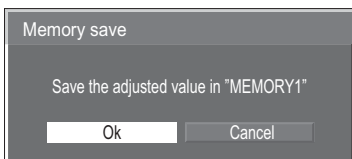


**3** Select a profile name for saving the picture adjustment values.



“\*” appears for a profile in which the picture adjustments have already been saved.

**4** Select “Ok”.



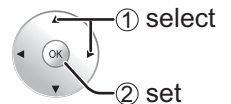
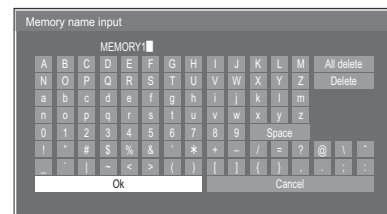
**5** Enter a name for the profile.

## [Entering profile names]

Profile names can be up to 40 characters.

To enter text, select characters in the on-screen keyboard.

Edit the default profile name in the text box as desired.



## Example: Specifying “MY PICTURE”

① Select “All delete”.



All text is deleted.

To delete individual characters, select “Delete”.

② Select “M”.



Repeat this process to enter the next character.

③ Select “Y”.

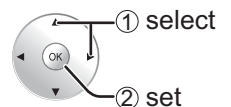
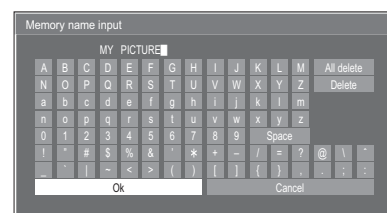


④ Select “Space”.



**6** When you finished entering the profile name, select “Ok”.

To cancel saving the profile, select “Cancel”.



## Loading profiles


Load profiles and apply the picture adjustment values to the display as follows.

### Notes:


- Loaded profiles are stored in memory according to the selected input terminal. (see page 15)
- When the settings are locked in “Extended life settings”, profiles cannot be loaded.

### <Loading profiles from the Picture menu>

**1** In the Picture menu, select “Memory load”.




**2** Select the profile to load.



### <Loading profiles from on the remote control>



**1** Press  to list the profiles.

**2** Select the profile to load.

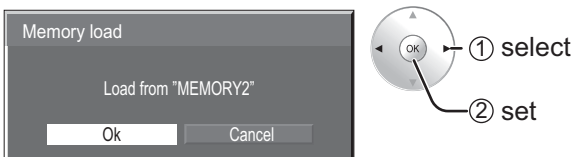


### <Loading profiles directly from the remote control>

To load profiles 1–9




**1** Press a button in the range  – .

**2** Select “Ok”.



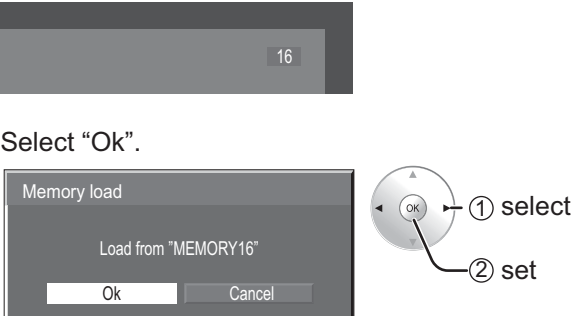
To load profiles 10–16

Example: To load profile 16

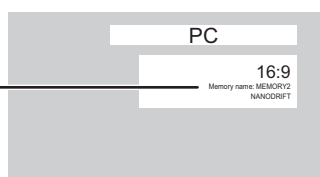
**1** Press   .

The profile number is displayed in the upper-right corner of the screen.

**2** Select “Ok”.




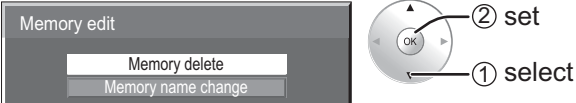

When profile is being loaded, profile name is displayed.






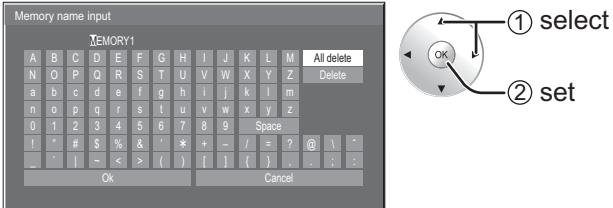

# Editing profiles

Delete or rename profiles as follows.


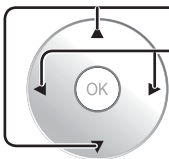

## <Deleting profiles>

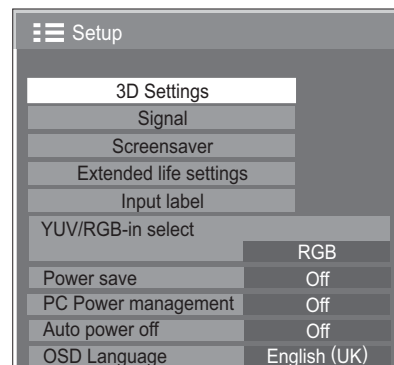
- 1 In the Picture menu, select "Memory edit".  

- 2 Select "Memory delete".  

- 3 Select the profile to delete.  
 To delete all profiles, select "All delete".  

- 4 Select "Ok".

## <Renaming profiles>

- 1 In the Picture menu, select "Memory edit".  

- 2 Select "Memory name change".  

- 3 Select the profile to rename.  

- 4 Enter a name for the profile.  
 Entering profile names → page 31  

- 5 When you finished entering the profile name, select "Ok".  
 To cancel renaming the profile, select "Cancel".  


# Setup menu

-  Press to display the Setup menu.
- 
  - Press to select the menu to adjust.
  - Press to adjust the menu.
-  Press to exit from menu.



## YUV / RGB-in select

This menu is displayed when DVI-D Terminal Board (TY-FB11DD) is installed to the unit.

**YUV ↔ RGB**

Select to match the signals from the source connected to the DVI input terminals.

YUV signals ⇔ "YUV"

RGB signals ⇔ "RGB"

## Power save

**Off ↔ On**

When this function is turned On, luminous level of the Plasma Display is suppressed, so power consumption is reduced.

## PC Power management

**Off ↔ On**

When this function is set to On, it operates under the following conditions to turn the power on or off automatically.

When no pictures (HD/VD sync signals) are detected for 30 or so seconds during PC signal input:

→ Power is turned off (standby); the power indicator lights up orange.

When pictures (HD/VD sync signals) are subsequently detected:

→ Power is turned on; the power indicator lights up green.

**Notes:**

- This function operates only during PC signal input.
- This function is effective when "Sync" is set to "Auto". (see page 36)

## Auto power off

**Off ↔ On**

Equipment power supply is turned Off when there is no signal.

When this is set to On, the power supply of the unit goes Off 10 minutes after the input signals stop.

## OSD Language

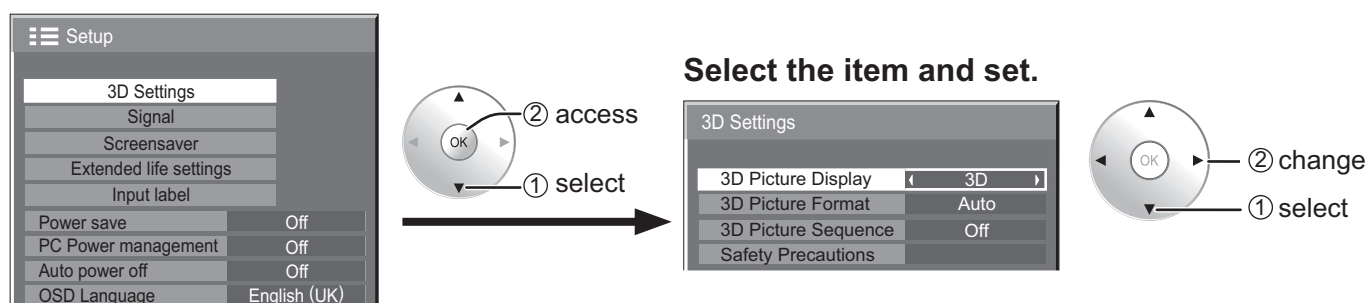
Select your preferred language.

### ■ Selectable languages

English(UK)  
 Deutsch  
 Français  
 Italiano  
 Español  
 ENGLISH(US)  
 中文.....(Chinese)  
 日本語.....(Japanese)  
 Русский.....(Russian)

## 3D Settings

If the 3D images are not displayed correctly or seem unusual, please adjust and setup the 3D settings.



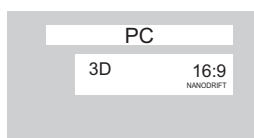
### • 3D Picture Display

3D ↔ 2D

**3D:** Use of 3D Eyewear. You can see 3D images for 3D image signal and 2D images for 2D image signal.

**2D:** No use of 3D Eyewear. You can see 2D images instead of 3D images.

When set to "3D", "3D" is displayed during 3D images.



### • 3D Picture Format

3D images method is set.

**Auto:** 3D images are automatically displayed according to the signal.

**Side by Side/Top and Bottom:** One of the formats of the 3D standard. Select these formats as necessary.

**Native:** Displays the input signal as it is. Use to identify the format type of the input signal.

### • 3D Picture Sequence

On ↔ Off

This function calibrates the timing to switch the right and left images as well as the timing to switch the shutter of right and left 3D Eyewear.

Select "On" if you feel that the sense of depth is unusual.

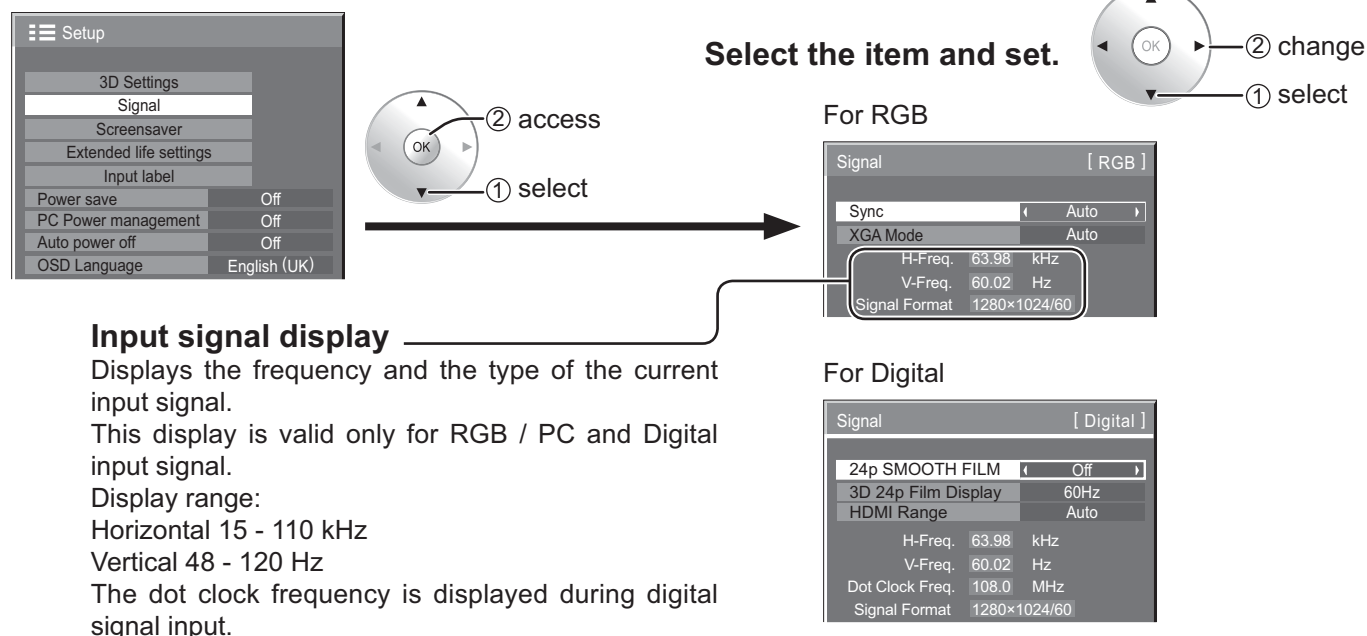
### • Safety Precautions

Displays the precautions for viewing 3D images.

## SIGNAL menu

### Note:

“Signal” setup menu displays a different setting condition for each input signal.



### • XGA Mode

This menu is displayed when the input signal is analog (PC). This unit supports three types of XGA signals with 60Hz vertical frequency having different aspect ratios and sampling rates (1,024 × 768 @ 60Hz, 1,280 × 768 @ 60Hz and 1,366 × 768 @ 60Hz).

**Auto** ↔ **1024×768** ↔ **1280×768** ↔ **1366×768**

**Auto:** Automatically selected from 1024×768/1280×768/1366×768.

Switch the setting to suit the input signal for better display depends on the angle of view or display resolution condition.

#### Note:

After making this setting, be sure to make each adjustment (such as “Auto Setup”) on the “Pos. /Size” menu as necessary. (see page 22)

### • Sync

This function operates only during input from PC IN terminal.

#### Setting RGB sync signal

Confirm that the input is set to RGB input (this setting is valid only for RGB input signal).

**Auto:** The H and V sync or synchronized signal is automatically selected. If both input, it is selected the H and V sync.



**on G:** Uses a synchronized signal on the Video G signal, which is input from the G connector.



**VBS:** Uses a synchronized signal of Composite Sync input, which is input from the HD connector.

### • SDI Through

Set the active through function of the Dual Link HD-SDI Terminal Board (TY-FB11DHD).

**Off** ↔ **On**

**On:** Enables active through.

**Off:** Disables active through.

#### Note:

Settings can only be performed for this menu when a slot mounted with a Dual Link HD-SDI Terminal Board (TY-FB11DHD) is selected.

### • FRAME CREATION

Displays reducing screen flicker image for 50Hz/25Hz signal input.

**Off** ↔ **On**

#### Note:

This function activates only for 50Hz/25Hz signal input with 2D images.

## • 24p SMOOTH FILM

During 2D or 3D viewing, images captured at 24 frames per second are provided in a smooth manner.

**Off**  $\longleftrightarrow$  **On**

**Note:**

This function can be set only for 24p signal input with 2D or 3D images

## • 3D 24p Film Display

For 3D images, images captured at 24 frames per second are set.

**60Hz**  $\longleftrightarrow$  **48Hz**

**60Hz:** Increases the number of frames to reproduce more natural movement images.

**48Hz:** Reproduces images like film-specific.

**Note:**

This function can be set only for 24p signal input with 3D images.

## • HDMI Range

Switches the dynamic range according to the input signal from HDMI 1 and HDMI 2 terminals.

**Video(16-235)**  $\longleftrightarrow$  **Full(0-255)**  $\longleftrightarrow$  **Auto**

**Video(16-235):** If the input signal is the video range, Example: HDMI terminal output for DVD player

**Full(0-255):** If the input signal is full range, Example: HDMI terminal output for personal computer

**Auto:** Switches the dynamic range automatically between "Video(16-235)" and "Full(0-255)" according to the input signal.

**Note:**

This function can be set only for HDMI 1 and HDMI 2 terminal input.

## • SDI Signal Format

Enabled only when the signal is input to the 4K SDI IN terminal.

Selects the format of the input signal for the 4K SDI IN terminal.

**For 3,840/30p or 3,840/24p signal input:**

**Auto**  $\longleftrightarrow$  **YCbCr(4:4:4) 10bit**  $\longleftrightarrow$  **RGB(4:4:4) 10bit**  $\longleftrightarrow$  **YCbCr(4:2:2) 12bit**  $\longleftrightarrow$  **YCbCr(4:4:4) 12bit**  $\longleftrightarrow$  **RGB(4:4:4) 12bit**

**For 4,096/24p signal input:**

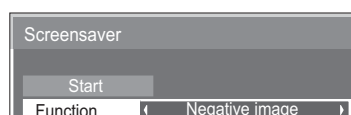
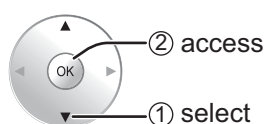
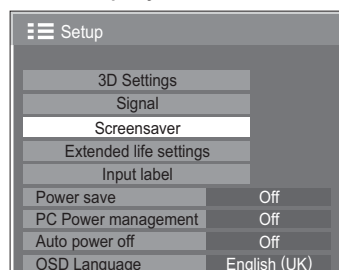
**Auto**  $\longleftrightarrow$  **RGB(4:4:4) 12bit**  $\longleftrightarrow$  **XYZ(4:4:4) 12bit**

**Auto:** Automatically selects the signal format according to the input signal.

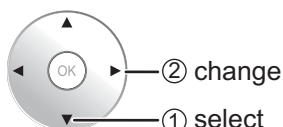
# Screensaver

Do not display a still picture, especially in 4:3 mode, for any length of time.

If the display must remain on, a Screensaver should be used.



## 1 Function selection



**Negative image**  $\longleftrightarrow$  **Scrolling bar only**  $\longleftrightarrow$  **White screen**  $\longleftrightarrow$  **Overlay scrolling bar**

**Negative image :** Negative image will be displayed on the screen.

**Scrolling bar only :** A white bar will scroll from left to right. The image won't be displayed.

**Overlay scrolling bar :** The brightness of the image will be decreased and a white bar will scroll on it.

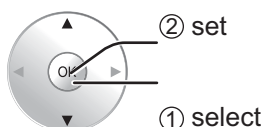
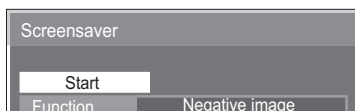
**White screen :** The whole screen will be white.

**Note:**

When the input signal is a 4k2k signal, only "Scrolling bar only" and "White screen" can be selected.

## 2 Start setting

Select "Start".

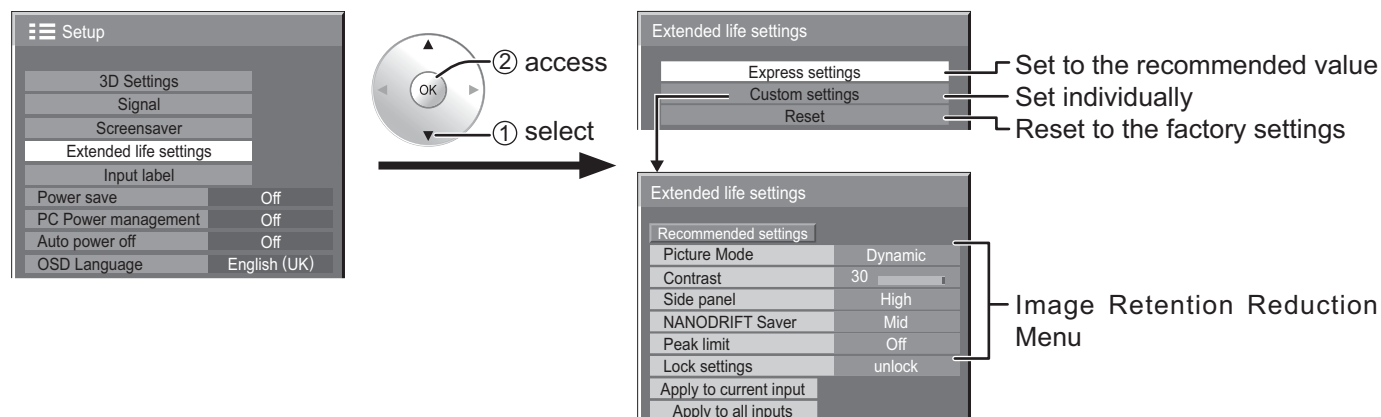


The menu screen will disappear and the SCREENSAVER will be activated. **To stop the Screensaver under On, press any button.**

**Note:** When the display is turned off, the Screensaver will be deactivated.

## Extended life settings

The following settings are setup to reduce image retention:



### Image Retention Reduction Menu

“Extended life settings” enables you to set the following 5 menus (Image Retention Reduction Menu) as recommended values or set them individually.

#### Picture Mode

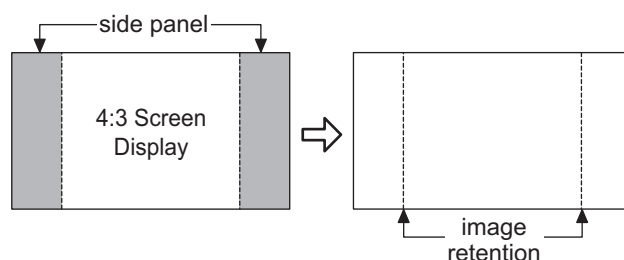
##### Contrast

“Picture Mode” and “Contrast” are same as “Picture” menu items (see page 25). The settings of this menu will be reflected to the “Picture” menu.

#### Side panel

Do not display a picture in 4:3 mode for an extended period, as this can cause an image retention to remain on the side panels on either side of the display field.

To reduce the risk of such an image retention, illuminate the side panels.



This function may be applicable to the non-picture area.

- Off:** Darken both ends.
- Low:** Make it dark gray.
- Mid:** Make it gray.
- High:** Make it light gray.

#### Notes:

- To reduce the occurrence of image retention, set the Side panel to High.
- The side panel may flash (alternate black/white) depending on the picture being shown on the screen. Using Cinema mode will reduce such flashing.

NANODRIFT Saver

Moves the display position of the screen slightly to reduce image retention on the display panel.

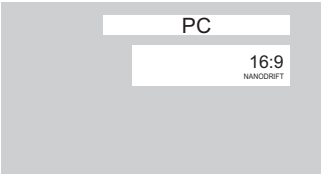
**Low–High:** NANODRIFT Saver operates. The display position of the screen moves at set time intervals. You can set the screen movement range. Some of the screen may appear to be missing as a result of this operation. If you change the value, a mask is displayed in the range where the picture is missing as a result of position movement.

**Note:**

A mask is not displayed when the input signal is a 4k2k signal.



When “NANODRIFT” Image Retention Reduction is operating, “NANODRIFT” is displayed.



Peak limit

**On:** Suppresses image contrast (peak brightness).

**Note:** When a still picture is viewed for an extended time, the screen may become slightly darker. (see page 45)

Express settings

Set the “Image Retention Reduction” menu to the recommended settings.

All menus will be locked.

Picture Mode: Normal

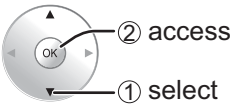
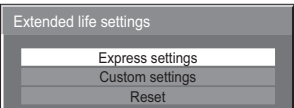
Contrast: Recommended setting for each model

Side panel: High

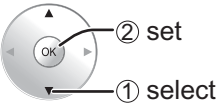
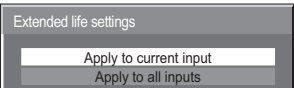
NANODRIFT Saver: Mid

Peak limit: On

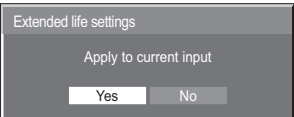
1 Select “Express settings”.



2 Select the input to apply the settings.



3 Select “Yes”.

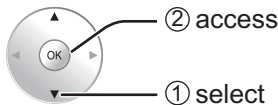
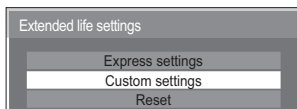


# Setup menu

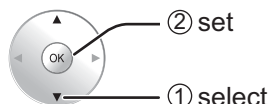
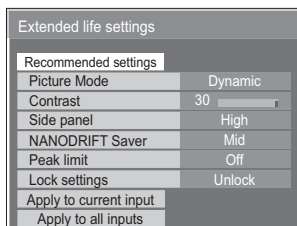
## Custom settings

Set the individual "Image Retention Reduction" menu.

### 1 Select "Custom settings".

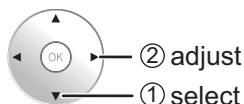
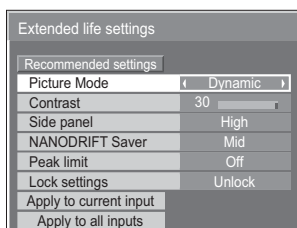


### 2 To set each menu to the recommended setting: Select "Recommended settings".

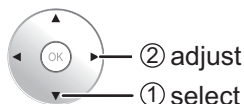
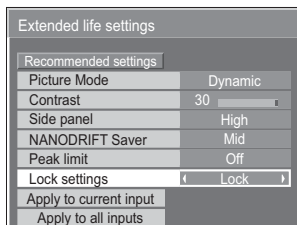


Each menu will be set as same as the "Express settings".

### 3 Set each menu.

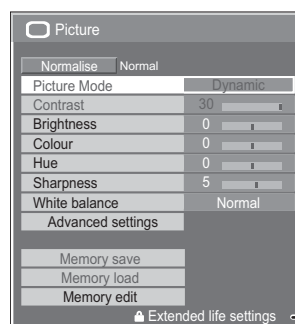


### 4 To lock each menu setting: Set the "Lock settings" to "Lock".

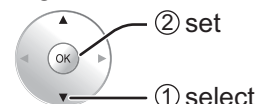
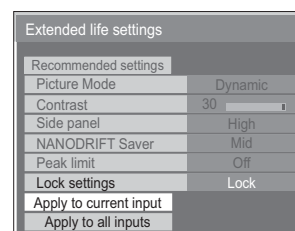


When a menu is locked, it is grayed out and cannot be set.

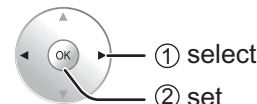
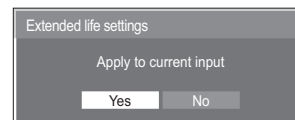
"Picture Mode" and "Contrast" will no longer be able to set in the "Picture" menu, and they are labeled with icon to indicate their locked status. Also, "Normalise", "Memory save" and "Memory load" are not available.



### 5 Select the input to apply the settings.



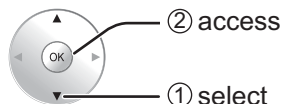
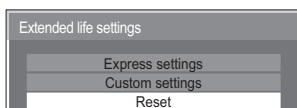
### 6 Select "Yes".



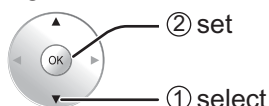
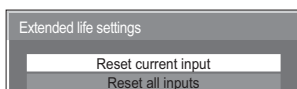
## Reset

Reset the "Image Retention Reduction" menu to the factory settings. Each menu will be unlocked.

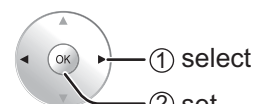
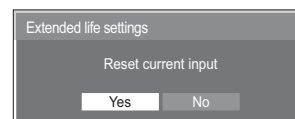
### 1 Select "Reset".



### 2 Select the input to reset the settings.



### 3 Select "Yes".



# Customizing the Input labels

This function can change the label of the Input signal to be displayed. (see page 15)

Setup

3D Settings

Signal

Screensaver

Extended life settings

Input label

Power save Off

PC Power management Off

Auto power off Off

OSD Language English (UK)

② access

① select

Input label

HDMI1 HDMI1

HDMI2 HDMI2

SLOT INPUT SLOT INPUT

4K-SDI 4K-SDI

4K-DVI 4K-DVI

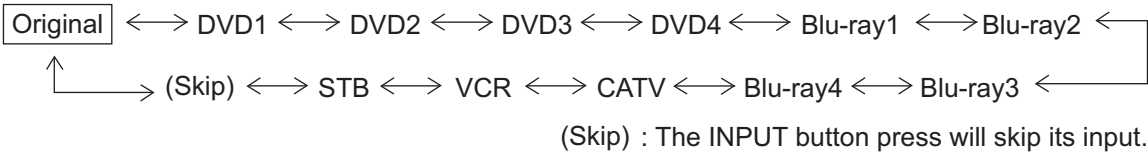
PC PC

② change


① select

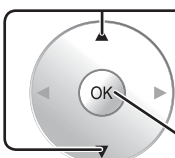
**Note:**  
The setting items are the same as the input terminal list of “Selecting the input signal” (page 15).

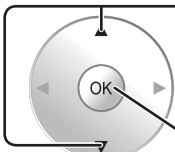
The input label changes as follows each time the ◀ or ▶ button is pressed.

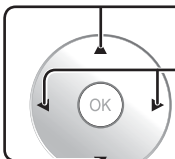


# Options Adjustments

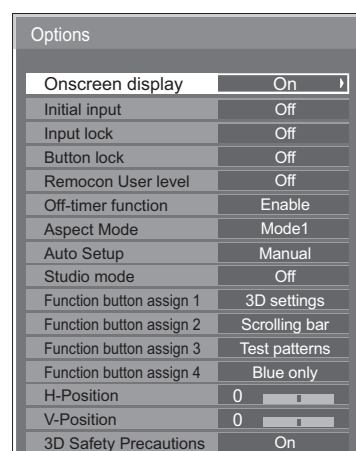
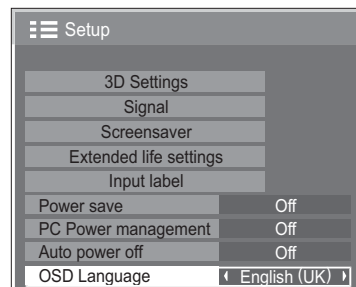
1  Press to display the Setup menu.


2  Press to select "OSD Language".  
Press for more than 3 seconds.



























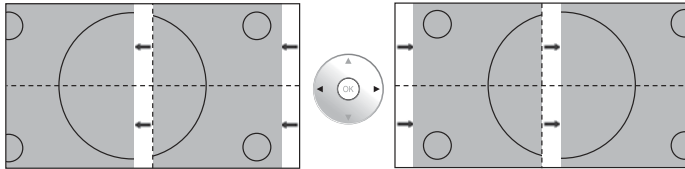
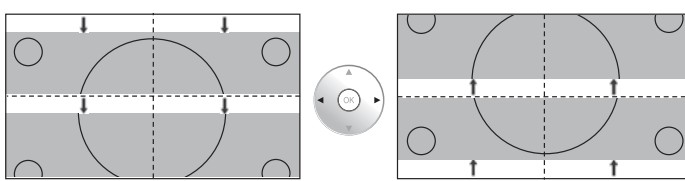
3  Press to select "Options".  
Press to display the Options menu.

4  Press to select your preferred menu.  
Press to adjust the menu.

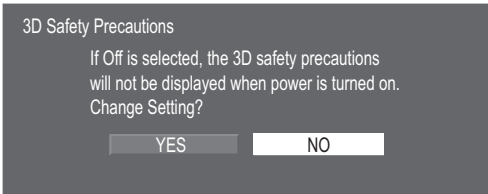
5  Press to exit from Options menu.



Item	Adjustments
Onscreen display	<b>On:</b> Displays all the following on screen. <ul style="list-style-type: none"> <li>• Power on display</li> <li>• Input signal switch display</li> <li>• No signal display</li> <li>• Mute and the remaining time of off-timer after  was pressed.</li> </ul> <b>Off:</b> Hides all the items above from view.
Initial input	Adjusts the input signal when the unit is turned on. <b>Off</b> ↔ <b>HDMI</b> ↔ <b>HDMI2</b> ↔ <b>SLOT INPUT*</b> ↔ <b>4K-SDI</b> ↔ <b>4K-DVI</b> ↔ <b>PC</b> * "SLOT INPUT" is displayed when an optional Terminal Board is installed. <b>Notes:</b> <ul style="list-style-type: none"> <li>• Only the adjusted signal is displayed. (see page 15)</li> <li>• This menu is available only when "Input lock" is "Off".</li> </ul>
Input lock	Locks the input switch operation. <b>Off</b> ↔ <b>HDMI</b> ↔ <b>HDMI2</b> ↔ <b>SLOT INPUT*</b> ↔ <b>4K-SDI</b> ↔ <b>4K-DVI</b> ↔ <b>PC</b> * "SLOT INPUT" is displayed when an optional Terminal Board is installed. <b>Notes:</b> <ul style="list-style-type: none"> <li>• Only the adjusted signal is displayed (see page 15).</li> <li>• Input switch can be used when this is set to "Off".</li> </ul>



Item	Adjustments												
Button lock	<p><b>Off</b> <math>\longleftrightarrow</math> <b>MENU&amp;ENTER</b> <math>\longleftrightarrow</math> <b>On</b> <b>Off:</b> All the buttons at the right side of the main unit can be used.</p> <p><b>MENU&amp;ENTER:</b> Locks  <b>MENU</b> and  <b>ENTER</b> buttons on right side of main unit. <b>On:</b> Locks all the button on right side of main unit. Sets Button lock with the unit buttons in the following procedure. <b>Off:</b> Press  <math>\blacktriangle</math> four times<math>\rightarrow</math>Press  <b>INPUT</b> four times<math>\rightarrow</math>Press  <math>\blacktriangledown</math> four times<math>\rightarrow</math>Press  <b>ENTER</b> <b>MENU&amp;ENTER:</b> Press  <b>ENTER</b> four times<math>\rightarrow</math>Press  <math>\blacktriangle</math> four times<math>\rightarrow</math>Press  <b>INPUT</b> four times<math>\rightarrow</math>Press  <b>ENTER</b> <b>On:</b> Press  <math>\blacktriangledown</math> four times<math>\rightarrow</math>Press  <b>ENTER</b> four times<math>\rightarrow</math>Press  <math>\blacktriangle</math> four times<math>\rightarrow</math>Press  <b>ENTER</b></p>												
Remocon User level	<p><b>Off</b> <math>\longleftrightarrow</math> <b>User1</b> <math>\longleftrightarrow</math> <b>User2</b> <math>\longleftrightarrow</math> <b>User3</b> <b>Off:</b> You can use all of the buttons on the remote control.</p> <p><b>User1:</b>You can only use , , , , , , , ,  buttons on the remote control. <b>User2:</b>You can only use  button on the remote control. <b>User3:</b>Locks all the buttons on remote control.</p>												
Off-timer function	<p><b>Enable:</b> Enables the “Off-timer function”. <b>Disable:</b>Disables the “Off-timer function”. <b>Note:</b> When “Disable” is set, the Off-timer is cancelled.</p>												
Aspect Mode	<p>Select the aspect switching pattern on pressing  from the 3 modes. <b>Mode1:</b> Aspect mode suitable for regions such as Europe and China (PAL/SECAM system) <b>Mode2:</b> Aspect mode suitable for regions such as North America and Japan (NTSC system) <b>All Aspect:</b> Aspect mode for all aspect options</p>												
Auto Setup	<p>Sets the operational mode of the automatic position adjustment in the Pos./Size menu. <b>Manual:</b> Automatic position adjustment starts when  is pressed on the remote control or automatic position adjustment is executed from the Pos./Size menu. <b>Auto:</b> Other than remote control or menu operation, automatic position adjustment starts: When the display power is turned ON. When the input signal is switched.</p>												
Studio mode	<p>For switching functions in setting menus used for television studio applications.</p> <table><tr><th></th><th>Studio mode: On</th><th>Studio mode: Off</th></tr><tr><td><b>White balance</b></td><td>“Studio” can be selected.</td><td>“Studio” not available.</td></tr><tr><td><b>Studio Gain</b></td><td>Can be switched On and Off.</td><td>Cannot be specified (set to “Off” and cannot be changed).</td></tr><tr><td><b>Under scan</b></td><td>Can be switched On and Off.</td><td>Cannot be specified (set to “Off” and cannot be changed).</td></tr></table>		Studio mode: On	Studio mode: Off	<b>White balance</b>	“Studio” can be selected.	“Studio” not available.	<b>Studio Gain</b>	Can be switched On and Off.	Cannot be specified (set to “Off” and cannot be changed).	<b>Under scan</b>	Can be switched On and Off.	Cannot be specified (set to “Off” and cannot be changed).
	Studio mode: On	Studio mode: Off											
<b>White balance</b>	“Studio” can be selected.	“Studio” not available.											
<b>Studio Gain</b>	Can be switched On and Off.	Cannot be specified (set to “Off” and cannot be changed).											
<b>Under scan</b>	Can be switched On and Off.	Cannot be specified (set to “Off” and cannot be changed).											
Function button assign 1 Function button assign 2 Function button assign 3 Function button assign 4	<p>Set the function to operate when the FUNCTION button 1 to 4 on the remote control is pressed. <b>3D settings:</b> The “3D Settings” menu is displayed. <b>Scrolling bar:</b> The screen saver activates, and after 15 minutes, the display power shuts down (standby). <b>Test patterns:</b> The test pattern is displayed by switching among seven patterns. <b>Blue only:</b> The screen displays only blue color for image adjustment. <b>Signal:</b> The “Signal” menu is displayed.</p>												
H-Position	<p>When the input signal is a 4k2k signal, adjust the horizontal position.</p> <div></div> <p>The four split screens respectively move in the horizontal direction.</p>												
V-Position	<p>When the input signal is a 4k2k signal, adjust the vertical position.</p> <div></div> <p>The four split screens respectively move in the vertical direction.</p>												

## Options Adjustments

Item	Adjustments
3D Safety Precautions	<p>3D Safety Precautions show/hide is set during power ON.  <b>On:</b> 3D Safety Precaution is shown every time when the power is ON.  <b>Off:</b> 3D Safety Precaution is not shown when the power is ON.            When the setting changes from "On" to "Off", the confirmation screen is displayed as below.            Pressing "YES" switches the setting.</p> 

### Normalization

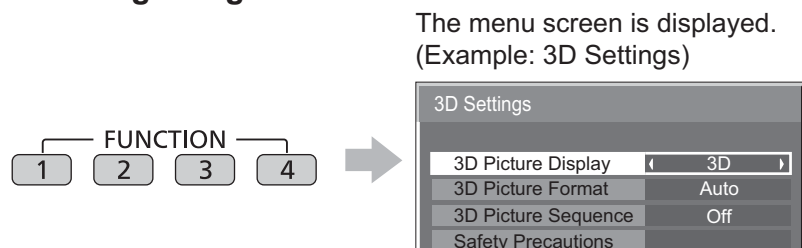
When both main unit buttons and remote control are disabled due to the "Button lock" or "Remocon User level" adjustments, set all the values "Off" so that all the buttons are enabled again.

Press the  button on main unit together with  button on the remote control and hold for more than 5 seconds. The "Shipping" menu is displayed and the lock is released when it disappears.

## Using FUNCTION button

Pressing the FUNCTION button activates one of the following five functions. The settings of functions are performed with the "Function button assign 1" to "Function button assign 4" on the Options menu. (see page 43)

### 3D Settings / Signal

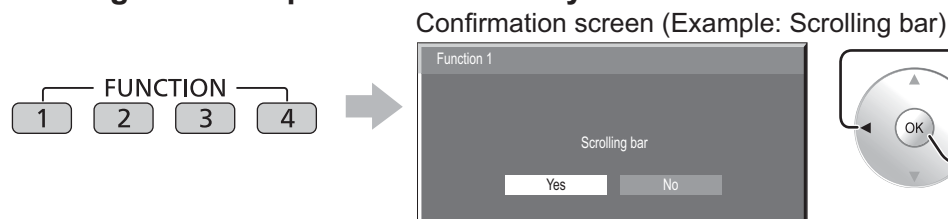


The menu screen is displayed.  
(Example: 3D Settings)

Pressing the FUNCTION button clears the menu.



### Scrolling bar / Test patterns / Blue only



The operation starts.

#### Scrolling bar

Activates the "Scrolling bar only" screensaver. After 15 minutes, the display enters standby mode.




To exit this mode, press any button.

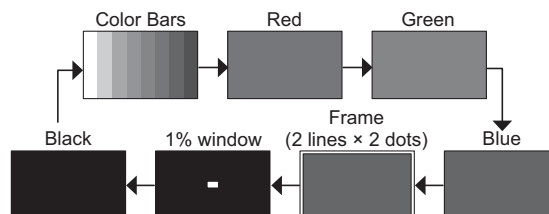
#### Blue only


The screen displays only blue color for image adjustment.

To exit this mode, press FUNCTION button.

#### Test patterns

Each time you press , a different test pattern is displayed (seven in all).



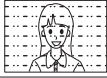



To exit this mode, press any button other than .

#### Note:


"PC Power management" and "Auto power off" are deactivated during "Scrolling bar" or "Test patterns" operation. (see page 34)

# Troubleshooting

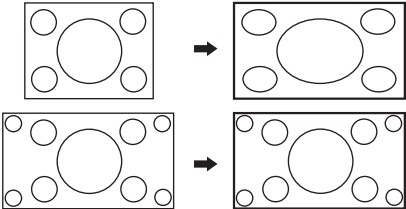
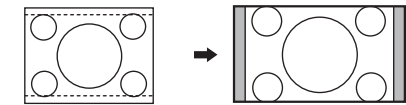
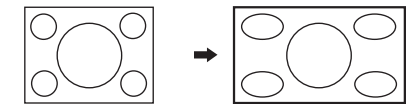
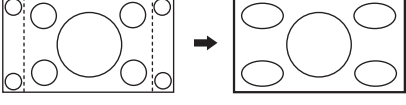
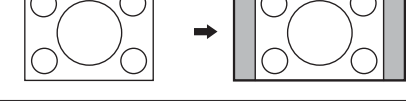
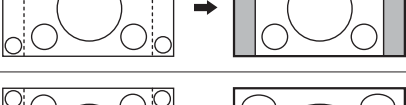

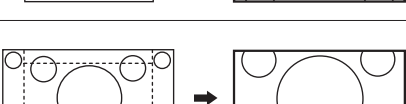

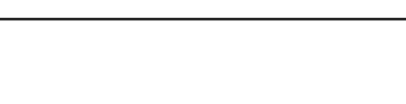
Before you call for service, determine the symptoms and make a few simple checks as shown below.

Symptoms	Checks
 Interference	Electrical Appliances Cars / Motorcycles Fluorescent light
 No Picture	The breaker is turned off. Not switched on Picture and Brightness setting (Check by pressing  button on the remote control.) If a signal with a non-applicable colour system format, or frequency is input, only the input terminal indication is displayed.
 No Colour	Colour controls set at minimum level (see page 25, 26)
No remote control operations can be performed.	Check whether the batteries have discharged completely and, if they have not, whether they were inserted properly. Check whether the remote control sensor is exposed to an outdoor light or a strong fluorescent light. Check whether the remote control designed specifically for use with the unit is being used. (The unit cannot be operated by any other remote control.)
A cracking sound is sometimes heard from the unit.	If there is nothing wrong with the picture, this is the sound of the cabinet undergoing very slight contractions in response to changes in the room temperature. There are no adverse effects on the performance or other aspects.
The top or bottom of the picture on the screen is cut off when I use the zoom function.	Adjust the position of the picture on the screen.
Areas at the top and bottom of the screen where the image is missing appear when I use the zoom function.	When using a video software program (such as a cinema size program) with a screen wider than one in the 16:9 mode, blank areas separate from the images are formed at the top and bottom of the screen.
I can hear sounds coming from inside the unit.	When the power is turned on, a sound of the display panel being driven may be heard: This is normal and not indicative of malfunctioning.
Parts of the unit become hot.	Even when the temperature of parts of the front, top and rear panels has risen, these temperature rises will not pose any problems in terms of performance or quality.
Power automatically turns off unexpectedly.	Check the settings of "PC Power management" and "Auto power off" in the Setup menu. Any of them may be set to "On". (see page 34)
Power indicator is blinking in red.	There is possibility of malfunction. Please contact an Authorized Service Center.
This Plasma Display uses special image processing. Hence a slight time lag may occur between image, depending on the type of input signal. However, this is not a malfunction.	

## Plasma Display panel

Symptoms	Check
The screen darkens slightly when bright pictures with minimal movements are shown.	The screen will darken slightly when photos, still images of a computer or other pictures with minimal movements are shown for an extended period. This is done to reduce image retention on the screen and the shortening of the screen's service life: It is normal and not indicative of malfunctioning.
It takes a while for the picture to appear.	The unit digitally processes the various signals in order to reproduce esthetically pleasing images. As such, it sometimes takes a few moments for the picture to appear when the power has been turned on, when the input has been switched or when the images for the main picture and sub picture on the two screens are swapped.
The edges of the images flicker.	Due to the characteristics of the system used to drive the panel, the edges may appear to flicker in the fast-moving parts of the images: This is normal and not indicative of malfunctioning.
The brightness on both sides of images in the 4:3 mode changes.	When viewing the side panels at the "High" or "Mid" setting, the brightness on both sides may change depending on the kind of program shown: This is normal and not indicative of malfunctioning.
Some parts of the screen do not light up.	The plasma display panel is manufactured using an extremely high level of precision technology, however, sometimes some parts of the screen may be missing picture elements or have luminous spots. This is not a malfunction.
 Image retention appears	Do not allow a still picture to be displayed for an extended period, as this can cause a permanent image retention to remain on the Plasma Display. Examples of still pictures include logos, video games, computer images, teletext and images displayed in 4:3 mode. <b>Note:</b> The permanent image retention on the Plasma Display resulting from fixed image use is not an operating defect and as such is not covered by the Warranty. This product is not designed to display fixed images for extended periods of time.
Whirring sounds can be heard from the display unit.	The display unit is fitted with a cooling fan to dissipate heat generated during normal use. The whirring sound is caused by rotation of the fan and is not a malfunction.

# List of Aspect Modes

Aspect Mode			Picture → Enlarged screen	Description
All Aspect	Mode 1 Factory setting	Mode 2		
16:9	16:9	16:9		The display of the pictures fills the screen. In the case of SD signals, pictures with a 4:3 aspect ratio are enlarged horizontally, and displayed. This mode is suited to displaying anamorphic pictures with a 16:9 aspect ratio.
14:9	14:9	—		Letterbox pictures with a 14:9 aspect ratio are enlarged vertically and horizontally so that their display fills the screen vertically and is slightly smaller than the screen horizontally. The top and bottom edges of the pictures are cut off. Side panels are displayed at the left and right edges of the screen.
Just ----- Just1	Just	Just		Pictures with a 4:3 aspect ratio are enlarged horizontally so that the picture distortion is minimized. The display of the areas around the left and right edges of the screen is slightly elongated.
Just2	—	Just		The pictures with a 4:3 aspect ratio among the 16:9 aspect ratio signals are enlarged horizontally so that the picture distortion is minimized. The left and right edges of the pictures are cut off. The display of the areas around the left and right edges of the screen is slightly elongated.
4:3 ----- 4:3 (1)	4:3	4:3		Pictures with a 4:3 aspect ratio are displayed with their original aspect ratio. Side panels are displayed at the left and right edges of the screen.
4:3 (2)	—	4:3		The pictures with a 4:3 aspect ratio among the 16:9 aspect ratio signals are displayed with their original aspect ratio. The left and right edges of the pictures are masked with side panels.
4:3 Full	4:3 Full	4:3 Full		The pictures with a 4:3 aspect ratio among the 16:9 aspect ratio signals are enlarged horizontally so that their display fills the screen. The left and right edges of the pictures are cut off.
Zoom ----- Zoom1	Zoom1	Zoom		Letterbox pictures with a 16:9 aspect ratio are enlarged vertically and horizontally so that their display fills the screen. The top and bottom edges of the pictures are cut off.
Zoom2	Zoom2	Zoom		The letterbox pictures with a 2.35:1 aspect ratio among the 16:9 aspect ratio signals are enlarged vertically and horizontally so that their display fills the screen. The top and bottom edges as well as the left and right edges of the pictures are cut off.
Zoom3	Zoom3	—		Letterbox pictures with a 2.35:1 aspect ratio are enlarged vertically and horizontally so that their display fills the screen vertically and is slightly larger than the screen horizontally. The top and bottom edges as well as the left and right edges of the pictures are cut off.

# Applicable Input Signals

\*Mark: Applicable input signal

	Signal name	Horizontal frequency (kHz)	Vertical frequency (Hz)	SDI IN 4k2k	DVI-D IN 4k2k	PC IN (Dot clock (MHz))	HDMI 1/2	SLOT DVI-D IN (Dot clock (MHz))
1	525 (480) / 60i	15.73	59.94			* (13.5)	*	
2	525 (480) / 60p	31.47	59.94			*5	*	* (27.0)
3	625 (575) / 50i	15.63	50.00			* (13.5)		
4	625 (576) / 50i	15.63	50.00				*	
5	625 (575) / 50p	31.25	50.00			* (27.0)		
6	625 (576) / 50p	31.25	50.00				*	* (27.0)
7	750 (720) / 60p	45.00	60.00			* (74.25)	*	* (74.25)
8	750 (720) / 50p	37.50	50.00			* (74.25)	*	* (74.25)
9	1,125 (1,080) / 60i	33.75	60.00			* (74.25) *1	*	* (74.25)
10	1,125 (1,080) / 50i	28.13	50.00			* (74.25) *1	*	* (74.25)
11	1,125 (1,080) / 60p	67.50	60.00	* *7	* *7	* (148.5) *1	*	* (148.5)
12	1,125 (1,080) / 50p	56.25	50.00	* *7		* (148.5) *1	*	* (148.5)
13	1,125 (1,080) / 30p	33.75	30.00	* *7		* (74.25) *1		* (74.25)
14	1,125 (1,080) / 25p	28.13	25.00			* (74.25) *1		* (74.25)
15	1,125 (1,080) / 24p	27.00	24.00	* *7		* (74.25) *1	*	* (74.25)
16	1,125 (1,080) / 24sF	27.00	48.00			* (74.25) *2		
17	1,250 (1,080) / 50i	31.25	50.00			* (74.25) *3		
18	2,048 × 1,080 / 24p *6	27.00	24.00	* *7				
19	2,048 × 1,080 / 24sF *6	27.00	48.00					
20	2,048 × 1,080 / 60p	67.50	60.00	* *7	* *7			
21	640 × 400 @ 70Hz	31.46	70.07			* (25.17)		
22	640 × 480 @ 60Hz	31.47	59.94			* (25.18) *5	*	* (25.18)
23	640 × 480 @ 72Hz	37.86	72.81			* (31.5)		
24	640 × 480 @ 75Hz	37.50	75.00			* (31.5)		
25	640 × 480 @ 85Hz	43.27	85.01			* (36.0)		
26	800 × 600 @ 56Hz	35.16	56.25			* (36.0)		
27	800 × 600 @ 60Hz	37.88	60.32			* (40.0)	*	* (40.0)
28	800 × 600 @ 72Hz	48.08	72.19			* (50.0)		
29	800 × 600 @ 75Hz	46.88	75.00			* (49.5)		
30	800 × 600 @ 85Hz	53.67	85.06			* (56.25)		
31	852 × 480 @ 60Hz	31.47	59.94			* (33.54) *5		* (34.24)
32	1,024 × 768 @ 50Hz	39.55	50.00					* (51.89)
33	1,024 × 768 @ 60Hz	48.36	60.00			* (65.0)	*	* (65.0)
34	1,024 × 768 @ 70Hz	56.48	70.07			* (75.0)		
35	1,024 × 768 @ 75Hz	60.02	75.03			* (78.75)		
36	1,024 × 768 @ 85Hz	68.68	85.00			* (94.5)		
37	1,066 × 600 @ 60Hz	37.64	59.94			* (53.0)		* (53.0)
38	1,152 × 864 @ 60Hz	53.70	60.00					* (81.62)
39	1,152 × 864 @ 75Hz	67.50	75.00			* (108.0)		
40	1,280 × 768 @ 60Hz	47.70	60.00			* (80.14)		
41	1,280 × 960 @ 60Hz	60.00	60.00			* (108.0)		
42	1,280 × 960 @ 85Hz	85.94	85.00			* (148.5)		
43	1,280 × 1,024 @ 60Hz	63.98	60.02			* (108.0)	*	* (108.0)
44	1,280 × 1,024 @ 75Hz	79.98	75.03			* (135.0)		
45	1,280 × 1,024 @ 85Hz	91.15	85.02			* (157.5)		
46	1,366 × 768 @ 50Hz	39.55	50.00					* (69.92)
47	1,366 × 768 @ 60Hz	48.36	60.00			* (86.71)		* (87.44)
48	1,400 × 1,050 @ 60Hz	65.22	60.00					* (122.61)
49	1,600 × 1,200 @ 60Hz	75.00	60.00			* (162.0)		* (162.0)
50	1,600 × 1,200 @ 65Hz	81.25	65.00			* (175.5)		
51	1,920 × 1,080 @ 60Hz	67.50	60.00			* (148.5) *4		* (148.5)
52	1,920 × 1,200 @ 60Hz	74.04	59.95					* (154.0)
53	Macintosh13" (640 × 480)	35.00	66.67			* (30.24)		
54	Macintosh16" (832 × 624)	49.72	74.54			* (57.28)		
55	Macintosh21" (1,152 × 870)	68.68	75.06			* (100.0)		

\*1: Based on SMPTE 274M standard.

\*2: Based on SMPTE RP211 standard.

\*3: Based on SMPTE 295M standard.

\*4: The input signal is recognized as 1,125 (1,080) / 60p.

\*5: When inputted 525p signal to the PC IN terminal, it is recognized as VGA 60Hz signal.

\*6: Based on SMPTE 292M and 372M standards. These signals can be received when the Dual Link HD-SDI Terminal Board (TY-FB11DHD) is installed.

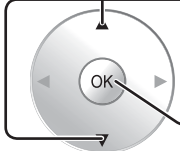
\*7: For 1 system

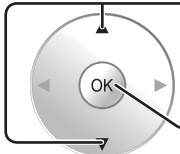
**Note:** Signals without above specification may not be displayed properly.

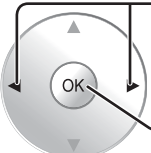
# Shipping condition

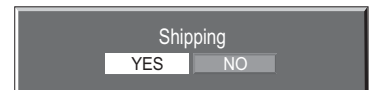
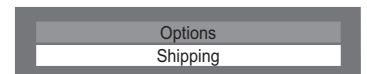
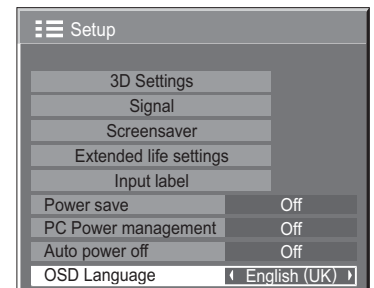
This function allows you to reset the unit to the factory setting.

**1**  Press to display the Setup menu.

**2**  Press to select "OSD Language".  
Press for more than 3 seconds.

**3**  Press to select "Shipping".  
Press to display the Shipping menu.

**4**  Press to select "YES".  
Press to confirm.



[from the unit]

- 1 Press the MENU button till the Setup menu is displayed.
- 2 Press the ▲ or ▼ button to select "OSD Language".
- 3 Press and hold the ENTER button till the Shipping menu is displayed.
- 4 Press the ▲ or ▼ button to select "YES".
- 5 Press the ENTER button and wait for 10 sec.

# Specifications

TH-152UX1		
<b>Power Source</b>		200 - 240 V AC, 50/60 Hz
<b>Power Consumption</b>		
	Power on	3700 W
	Stand-by condition	0.5 W
	Power off condition	0.3 W
<b>Plasma Display panel</b>		Drive method : AC type 152-inch, 17:9 aspect ratio
<b>Screen size</b>		134.4" (W) × 70.9" (H) × 152.0" (diagonal) / 3,416 mm (W) × 1,801 mm (H) × 3,862 mm (diagonal)
	(No. of pixels)	8,847,360 (4,096 (W) × 2,160 (H)) [4,096 × 2,160 × 3 dots]
<b>Operating condition</b>		
	Temperature	32°F - 95°F / 0 °C - 35 °C
	Humidity	20 % - 80 %
<b>Applicable signals</b>		
	Scanning format	525 (480) / 60i · 60p, 625 (575) / 50i · 50p, 750 (720) / 60p · 50p, 1125 (1080) / 60i · 60p · 50i · 50p · 24p · 25p · 30p · 24sF, 1250 (1080) / 50i
	PC signals	VGA, SVGA, XGA, SXGA UXGA .... (compressed) Horizontal scanning frequency 15 - 110 kHz Vertical scanning frequency 48 - 120 Hz
<b>Connection terminals</b>		
AV IN	HDMI 1/2	TYPE A Connector × 2 HDMI (Version 1.4 with 3D)
SDI IN <sup>*1</sup>		BNC 0.8 Vp-p (75 Ω) HD-SDI (Dual Link) × 4, 4K signal input
DVI-D IN <sup>*1</sup>		DVI-D (Single Link) 24 Pin × 4, 4K signal input Compliance with DVI Revision 1.0
PC IN		High-Density Mini D-sub 15 Pin G with sync 1.0 Vp-p (75 Ω) G without sync 0.7 Vp-p (75 Ω) B: 0.7 Vp-p (75 Ω) R: 0.7 Vp-p (75 Ω) HD/VD: 1.0 - 5.0 Vp-p (high impedance) with picture 1.0 Vp-p (high impedance) without picture 0.3 Vp-p (high impedance)  VBS (use HD port)
SERIAL		External Control Terminal D-sub 9 Pin RS-232C compatible
3D SHUTTER OUT <sup>*2</sup>		M3 jack × 1, for 3D active shutter eyewear
SLOT	DVI-D IN	DVI-D 24 Pin Content Protection Audio Input is not available Compliance with DVI Revision 1.0 Compatible with HDCP 1.1
<b>Dimensions (W × H × D)</b>		141.8" × 78.0" × 5.8" <sup>*3</sup> / 3,600 mm × 1,980 mm × 147 mm <sup>*3</sup>
<b>Mass (weight)</b>		approx. 1,272.1 lbs / 577 kg net

\*1 4 inputs is set and only for one 4k2k signal. You can not input 4 different signal to each inputs.

\*2 An optional 3D IR TRANSMITTER is required for viewing 3D images.

\*3 10.3" / 260 mm when including protruding portion of terminals

## Notes:

- Design and specifications are subject to change without notice. Mass and dimensions shown are approximate.
- This equipment complies with the EMC standards listed below.  
EN55022, EN55024, EN61000-3-11, EN61000-3-12.

## Information for Users on Collection and Disposal of Old Equipment and used Batteries



These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste. For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC and 2006/66/EC.

By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.

For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items. Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.



### For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.



### [Information on Disposal in other Countries outside the European Union]

These symbols are only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.

### Note for the battery symbol (bottom two symbol examples):

This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

Cd

### Customer's Record

The model number and serial number of this product can be found on its rear panel. You should note this serial number in the space provided below and retain this book, plus your purchase receipt, as a permanent record of your purchase to aid in identification in the event of theft or loss, and for Warranty Service purposes.

Model Number \_\_\_\_\_

Serial Number \_\_\_\_\_

Pursuant to the directive 2004/108/EC, article 9(2)

Panasonic Testing Centre

Panasonic Service Europe, a division of Panasonic Marketing Europe GmbH

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